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THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
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METYCAINE AS A CAUDAL ANESTHETIC IN PROCTOLOGIC SURGERY

A REPORT OF 100 CASES

Claude G. Mentzer, M. D.
Miami

The purpose of this report is to call attention to the efficacy of metycaine as a caudal anesthetic in proctologic surgery. Caudal anesthesia is produced by the injection of an anesthetic solution into the sacral canal through the sacral hiatus. This solution produces anesthesia by its action on the extradural portion of the sacral nerves traversing this canal.

A review of the literature disclosed that the use of this relatively old method of producing anesthesia is not prevalent, despite its simplicity, safety and efficiency. It is difficult to reconcile the comparative obscurity of this method with its obvious advantages. First, it produces complete relaxation similar to that of spinal anesthesia and has the added advantage of being much safer, sparing the patient the postoperative headaches and certain nervous sequelae that sometimes follow the use of spinal anesthesia. Second, its advantages over local anesthesia are that the relaxation is more complete, the tissues are not distorted, and it can be given when there is an infective process about the anus. Third, it can be given to patients who are poor surgical risks when a general anesthetic is contraindicated. Fourth, adrenalin can be added to the solution with the advantage of prolonging the anesthesia and without the fear of postoperative bleeding as sometimes happens when adrenalin is added to a local infiltration solution. Fifth, the level of anesthesia obtained is adequate for all proctologic surgery and for many procedures in the genito-urinary, gynecologic and obstetric fields.

The relative obscurity of this type of anesthesia is probably due to a misconception as to the technical difficulties, the apparent long time for induction and the unreliability of the anesthetic agents previously used. First, in respect to technical difficulties, in 103 out of 105 cases in which the patients were scheduled for caudal anesthesia, the sacral canal was entered by seven different physicians with no previous experience with this method. Metycaine was injected in all but 5 of these cases, and this group of 100 forms the basis of this report. In 3 of the 5 cases not included in this series, the caudal canal was entered, but because spinal fluid was obtained in 2 and blood in the third, no metycaine was injected. In the fourth case, the sacral canal was apparently closed by calcification. The fifth patient was an obese woman in whom the canal was not located. Second, the induction time for metycaine averaged 11.6 minutes (table 3), in contrast to from 15 to 20 minutes for novocain.[1] Third, metycaine produced perfect anesthesia in 90 of the 100 cases and partial anesthesia in the other 10.

Until recently, the most satisfactory anesthesia for caudal block was novocain, as stated by Hirschman[2], Yeomans[3] and Buie[4], but metycaine has now proved its superiority in most respects. It meets almost every qualification for a perfect local anesthetic, as formulated by Braun[5]:

> One, the drug must produce a diffusible, complete and lasting anesthesia; two, following systemic absorption it should be less toxic than cocaine in proportion to its anesthetic power; three, it should not produce irritation and painful infiltration or cause local tissue damage but should be absorbed without aftereffects, such as hyperesthesia, exudation or necrosis; four, it should be soluble in water, and its solution should be stable; five, it should be readily sterilizable by heat, preferably in solution; and, six, unless more powerfully anesthetic, and at the same time, less toxic than any known substance, the substance should be compatible in solution with adrenalin.

Metycaine, benzoyl-gamma—(2 methyl-piperidino)—propanol hydrochloride, is an anesthetic drug related to procaine. The work of Rose, Coles and Thompson[6] on animals demonstrated that it is much less toxic than cocaine and only slightly more toxic than novocain when given subcutaneously. Meeker[7] and Woodbridge[8] showed metycaine to be effective and safe as a local anesthetic in humans. More recently, Reuther[9], in 1938, reported a series of 20 cases in which 2 per cent metycaine was used caudally with 100 per cent effective anesthesia without complications in comparison to 45 per cent effective anesthesia in 20 cases using a 2 per cent alkaline solution

Read before the Sixty-Seventh Annual Meeting of the Florida Medical Association, held in Tampa, April 29, 30, and May 1, 1940.

of novocain. Ferguson[10] had similar results. Tuohy[11] reported a series of 667 cases in which 1 per cent metycaine was given with excellent results to produce a combined caudal and transsacral anesthesia. He found that metycaine produces anesthesia in half the time of novocain, lasts twice as long and is also antiseptic in action.

The following report supports the claims of the advantages which metycaine possesses over novocain as a caudal anesthetic. The information in this report is derived from a study of the 100 cases of this series, seen on the proctologic service of the Jackson Memorial Hospital between February 22 and November 14, 1939. These proctologic operations were performed under caudal anesthesia produced by metycaine and were for the conditions shown in table 1.

TABLE 1.—DISTRIBUTION OF PROCTOLOGIC CASES OPERATED UPON UNDER CAUDAL ANESTHESIA, USING METYCAINE.

1.	Hemorrhoids (all varieties) ..	23
2.	Anal fistulas	16
3.	Anal fissures, (ulcers)	16
4.	Abscesses (all varieties)	14
5.	Cryptitis, papillitis, pectinosis ..	12
6.	Biopsies	5
7.	Concealed rectal prolapse	4
8.	Pruritus ani	2
9.	Lymphogranuloma venereum .	2
10.	Examination	1
11.	Rectal carcinoma (fulguration)	1
12.	Condyloma acuminatum	1

Preoperative Preparation.—In considering the preparation of the patient for caudal anesthesia, the importance of preoperative sedation cannot be overstressed. Adequate sedation, plus a block anesthesia of the sacral nerves, produces the perfect anesthesia, which, according to Buie,[4] is characterized by freedom from fear, mental and muscular relaxation, adequate exposure and complete anesthesia. Preoperative sedation in this series consisted of 1½ grains of nembutal given orally and from $\frac{1}{6}$ to $\frac{1}{3}$ grains of pantopon administered hypodermically.

Almost all of these proctologic procedures were carried out with the patient in the prone position. The site of the primary wheal and the perianal region were prepared with alcohol and tincture of merthiolate. Just before anesthetization, most of the patients received $\frac{3}{8}$ of a grain of ephedrine sulfate.

Technic of Caudal Anesthesia.—The technic of locating the sacral hiatus is relatively simple and is adequately described by Buie[4], Yeomans[8], Reuther[9] and others. In obese subjects, however, its location is sometimes difficult to determine. The method described by Haines, Mumey and Faber[12] is extremely valuable as the sacral cornua in these patients cannot usually be palpated as a landmark. An imaginary equilateral triangle is drawn, the base of which joins the two posterior superior spines, seen as dimples in the obese. The apex of this triangle, pointing caudad, then marks the site overlying the sacral hiatus (Fig. 1).

The anesthetic solution is made by diluting a 5 cc. ampule of 20 per cent metycaine to 100 cc. of solution with warm (100 F.) normal saline. Seven minims of adrenalin hydrochloride, 1:1000, are then added.

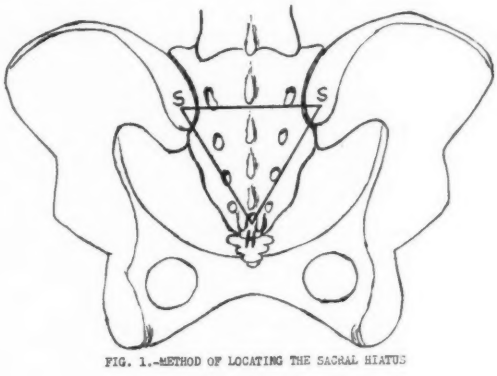

FIG. 1.-METHOD OF LOCATING THE SACRAL HIATUS

S - Posterior superior spines (seen as dimples in the obese)
H - Sacral hiatus
SSH - Equilateral triangle

A local wheal of this anesthetic is made with a fine hypodermic needle over the site of the sacral hiatus and a spinal needle pushed through the sacrococcygeal membrane into the sacral canal a distance of from two to four centimeters. A careful test is made to determine whether blood or spinal fluid can be withdrawn through the needle. If not, the solution is slowly injected. An average time of four minutes is required to complete the injection.

Quantity of Metycaine Used.—A greater quantity of metycaine solution was used in the earlier cases of the series than in the later ones.

The most effective dosage was found to be 45 cc.

In table 2 the amounts used and the number of patients receiving each amount are listed.

Table 2.—Quantities of Metycaine Used.

No. of Patients.	Amts. 1% Metycaine Solution
1	65 cc.
14	60 cc.
15	50 cc.
38	45 cc.
1	30 cc.
31	not tabulated

Anesthetic Induction Time.—The length of time required to produce anesthesia was computed from the time the injection was first started. The time consumed for injection varied from three to six but averaged four minutes. The quantity and the rate of injection did not apparently affect the rapidity of the onset of anesthesia. Motor anesthesia was usually present by the time the metycaine was injected. Occasionally sensory anesthesia was complete on one side ahead of the other. Table 3 indicates the variation in the time required to complete anesthesia.

Table 3.—Anesthetic Induction Time.

Shortest time	3 minutes
Longest time	25 minutes
Average time	11.6 minutes
Not tabulated	22 cases

Discussion.—A reliable anesthetic producing a satisfactory percentage of anesthesia in a relatively short time has been found in metycaine. In this series of 100 cases, perfect anesthesia was obtained in 90 per cent and partial anesthesia in the remaining 10 per cent. The partial anesthesia varied from motor paralysis in all to unilateral and sometimes three-fourths complete anesthesia in others. Three of the ten had had perfect anesthesia at a previous operation within two weeks. No definite cause for failure can be given. No doubt, in these latter cases, the anesthesia would have been complete if more time had been allowed before a supplementary anesthetic was given.

The short time necessary to produce anesthesia, an average of 11.6 minutes in this series, was used to an advantage. Since the patient was in the prone position and had been draped for both anesthesia and operation, no time was lost. An average of four minutes was used for injecting the anesthetic. As the patient is always re-examined before the operation is started, examination was possible during this period because motor anesthesia is present as soon as the solution is injected. Following this re-examination, 80 of the 100 patients were given an injection of anucaine, an anesthetic soluble in oil. As this analgesic has a delayed action, it played no part in the time factor of sensory anesthesia produced by metycaine.

Reactions attributable to the anesthetic occurred in 15 patients. They were chiefly due to a fall in blood pressure, the average for the series being 11 mm. Hg, and the symptoms occurring were nausea and occasional vomiting. Most of these 15 patients did not have the usual injection of ephedrine before the administration of metycaine. These symptoms according to Perry[1], are produced by an intoxication due to the escape of the anesthetic into the blood stream. Blood coming back through the needle is proof that the needle is in the sacral canal, but is also a contraindication to injection of the anesthetic, at least until the needle is moved and blood does not return. Berry[2] reported that 38 per cent of a series of 165 patients reacted to novocain in the form of a fall in blood pressure, nausea, vomiting and other symptoms; he attributed these reactions to the paralytic action of the novocain on the sympathetic nerves. He believed the rise in blood pressure in 10 per cent of the cases of his series was due to intoxication with procaine. From these figures it appears then, that metycaine is a safer drug than novocain for caudal administration.

The anesthetic level obtained by this form of anesthesia was always high enough for proctologic surgery. For other fields of surgery the determination of the upper level is more important. The area of anesthesia was checked in 6 cases in this series and was found to be the so-called saddle type; the area anesthetized was the same whether 45, 50 or 60 cc. of metycaine was administered. Subsequent to this series, 20 cc. of a 2 per cent solution of metycaine has been used, and it gives the same

level of anesthesia.

The length of the period of anesthesia was checked in 6 cases in which adrenalin had been added to the solution; it was found to be about two hours. In the only case in which it had not been added the anesthesia lasted one hour. Partial analgesia lasted for some time afterward, further indicating the use of this method. In this series, there occurred no abrupt cessation of anesthesia with occasional hyperesthesia, which is sometimes experienced with the use of intraspinal injections of novocain.

SUMMARY

1. Metycaine, used as a caudal anesthetic, produced perfect anesthesia in 90 per cent of 100 proctologic cases and partial anesthesia in the remaining 10 per cent.
2. Anesthesia was complete in an average of 11.6 minutes.
3. The technic is simple.
4. The anesthesia is intense and prolonged and wears off gradually.
5. The level of anesthesia produced by this method and agent is high enough to perform any anorectal operation.
6. The only complication was nausea with occasional vomiting which occurred in 15 per cent of the cases. Nausea was less frequent when ephedrine sulfate was given immediately before anesthetization was started.
7. The only contraindication to this method is an infective process over the site of the sacral hiatus.

BIBLIOGRAPHY

1. Perry, C. L.: Caudal Anesthesia in Rectal Surgery, J. Florida M. A. **17**:30-31 (July) 1930.
2. Hirschman, L: Synopsis of Ano-Rectal Diseases, St. Louis, Mosby, 1937.
3. Yeomans, F. C.: Proctology, New York, Appleton, 1929.
4. Buie, L. A.: Practical Proctology, Philadelphia, Saunders, 1937.
5. Braun, Cited by Meeker, W. R.: Clinical Experience with New Local Anaesthetic Drugs, Surg. Gynec. & Obst. **50**:997-1000 (June) 1930.
6. Rose, C. L.; Coles, H. W., and Thompson, H. E.: Studies in the Pharmacology of Local Anesthetics: Comparison of Gamma-(2 methylpiperidino)-Propyl Benzoate Hydrochloride with Cocaine and Procaine on Experimental Animals, J. Lab. & Clin. Med. **15**:731-735 (May) 1930.
7. Meeker, W. R.: Clinical Experience with New Local Anesthetic Drugs, Surg. Gynec. & Obst. **50**:997-1000 (June) 1930.
8. Woodbridge, P. D.: Neothesin for Spinal and Regional Anesthesia: Preliminary Clinical Report, Anesth. & Analg. **11**:177-183 (July-Aug.) 1932.
9. Reuther, T. F.: Caudal Anesthesia in Proctology, N. Internat. Clin. **3**:183-188 (Sept.) 1938.
10. Ferguson, L. K.: Local Anesthesia for Anal Operations, S. Clin. North America **19**:1513-1524 (Dec.) 1939.
11. Tuohy, E. B.: Use of Metycaine for Producing Block Anesthesia of Sacral Nerves, Surg. Gynec. & Obst. **68**:222-223 (Feb.) 1939.
12. Haines, W. H.; Mumey, N., and Faber, E. F.: Caudal Anesthesia in Urology; New Method for Locating Sacral Hiatus, Internat. Clinics, **2**:85-94 (June) 1924.
13. Berry, G. P.: Caudal Epidural Anesthesia in Perineal Surgery of Genito-Urinary Tract, Report of 165 Consecutive Cases, J. A. M. A. **90**:1018-1021 (Mar. 31) 1928.

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DISCUSSION

Dr. Leigh F. Robinson, Ft. Lauderdale:

Dr. Mentzer has very thoroughly covered his subject and very convincingly demonstrated the superiority of metycaine over novocain as an anesthetizing agent. I hope his paper will be the means of stimulating a more general application of this little used form of anesthesia. The essayist has emphasized its simplicity of technic, its freedom from danger and its high percentage of success in producing anesthesia.

I have used caudal anesthesia for more than twenty years in rectal and genital surgery. My experience, however, has been limited to novocain. The principal objection to caudal anesthesia has been the time element for induction, which with novocain is about twenty minutes. Dr. Mentzer's experience with metycaine definitely rules out this objection, and he also has shown that it is effective longer.

I should like to ask Dr. Mentzer what he did for the failures or partial failures. Did I understand him to say that he instilled a rectal anesthetic in 80 of the 100 cases just following his re-examination? For our failures we have used pentothal sodium and transsacral block. As a matter of fact, our tendency is to combine the caudal injections and transsacral block in our cases. While waiting for the caudal anesthetic to take effect, one has enough time to inject the sacral foramina.

I want to thank Dr. Mentzer for bringing us this most timely paper.

Dr. C. L. Perry, Miami:

Dr. Mentzer has ably shown the increased efficacy of metycaine over procaine in caudal anesthesia. The technic of injecting the caudal canal is very simple and easily mastered, and by its use a valuable adjunct is added to the surgeon's armamentarium.

Provided the patient is a suitable subject for local anesthesia, metycaine is ideal for many conditions other than anal surgery. It has been used for urologic conditions including cystoscopic manipulations, fulguration of tumors or ulcers of the bladder, and prostatic resections. In gynecology, the use of caudal anesthesia is almost indispensable in vaginal hysterectomies, vaginal repairs of fistulas and hernias, and other conditions because many of the patients in these cases are not good respiratory or spinal anesthetic risks.

The contraindications for metycaine anesthesia by caudal injection are malformations of the bony sacrum and infectious processes about the sacral hiatus. Reactions to the drug are fewer and of less intensity than with procaine, and proper preoperative sedation, as outlined by Dr. Mentzer, has practically eliminated reactions. I feel that as long as an injection of 40 cc. of 1 per cent solution of the drug will give good quick anesthesia, there is no reason to use stronger solutions in lesser amounts.

While the solution does ascend in the epidural space, as shown by Shaw, it does not produce anesthesia in the higher levels. Shaw believes that reactions made evident by falling blood pressure, bradycardia and weakness are due to a paralytic action on the sympathetic nerves in

the upper lumbar and thoracic segments. It is my belief that these reactions are due to venous absorption through injury to the sacral venous plexus by the caudal needle.

Dr. Mentzer's paper has served a valuable purpose if it renews the interest of more physicians in the use of this simple and efficient anesthetic agent.

Dr. Palmer R. Kundert, Orlando:

I have enjoyed this excellent paper and have been especially pleased to learn that there have been no serious untoward effects experienced from the use of metycaine in these one hundred cases.

Dr. Orr and I have used metycaine intraspinally in fifty cases. In these fifty cases cord bladders developed in three patients and one also lost control of the anal sphincter.

Needless to say, we have not used metycaine intraspinally for the last five months. We are happy to report that in the interval one patient has completely recovered and the other two are showing gradual improvement. We have learned recently that a urologist in San Francisco has had three similar experiences. If any one here has seen such complications following the use of metycaine intraspinally, we should welcome the opportunity to compare notes.

Dr. C. D. Rollins, Jacksonville:

I wish to discuss this paper from the viewpoint of its application in obstetrics. I have had considerable experience with caudal anesthesia in the practice of gynecology and obstetrics. The knowledge that the period of local anesthesia is much lengthened with the use of metycaine should stimulate interest in some of our obstetricians to try this anesthetic again in childbirth.

Some years ago I wrote a paper on painless childbirth and the basis of that paper was some experiences I had with caudal anesthesia in labor.

I used naupercaine solution to inject the caudal canal. The short duration of the anesthesia made it unsatisfactory, and I finally gave it up. But now with metycaine, one has a much longer period of anesthesia, and this fact suggested to me that there are great possibilities with this drug in labor. With my old drug and its fleeting effect it was hard to have the patient go into the most painful part of delivery at the period when the anesthesia was most profound. It is absolutely true that if the baby happens to be born at the period of caudal block, the birth will be painless. The great difficulty in having the birth coincide with the anesthesia caused me to give up this method.

Now that we can induce anesthesia of the perineal and cervical regions for a period of two hours by injecting metycaine in the caudal canal, it may be possible to effect painless childbirth by this method.

Dr. Mentzer (concluding):

Dr. Robinson has asked me to explain the reason for partial anesthesia. I do not know the answer. When we get partial anesthesia we usually supplement it with 1 per cent metycaine used as a local anesthetic.

The oil soluble anesthetic, anucaine, is injected during the induction period. The anesthetic is used for postoperative analgesia, its effect lasting for from one to three weeks.

In our series of cases, the anesthetic level was practically the same in all patients, whether 30, 40, 50 or 60 cc. of the 1 per cent solution of metycaine was used. This may be explained by the more rapid spread of the anesthetic solution laterally along the nerve trunks than through the epidural space upward above the sacral canal.

We feel that caudal anesthesia is safer than spinal anesthesia because the solution is extradural and there is not the chance, therefore, for neurological accidents.

LOBAR PNEUMONIA
A REVIEW OF 147 CASES

KARL B. HANSON, M. D.
AND
RALPH P. PANZER, M. D.
Jacksonville

The purpose of this paper is to evaluate the therapy, morbidity, and mortality of 147 cases of lobar pneumonia occurring in adults. These cases were selected from admissions to the Duval County Hospital from June 1, 1937 to April 1, 1940. The lowest age limit was 13 years. Rigid criteria were fulfilled before a case was included in this series. In 84 cases, the diagnosis was confirmed by x-ray. In a number of instances, cases diagnosed as lobar pneumonia were not included because one could not substantiate the diagnosis by a review of the history and physical examination. All patients who died within twelve hours after admission were not considered since death, in most instances, could not be regarded as a failure of treatment.

It must be remembered that these cases were prepared with the best facilities available at the time the patients were admitted and not for the purpose of presenting them in a scientific study at some later date.

The distribution according to race and sex was as follows: 38 white males; 64 negro males; 20 white females and 25 negro females.

Typing and culture of sputa were done in 80 cases and in only 21 were pneumococci found. These were: type 1, 7; type 2, 2; type 3, 4; type 5, 2; type 8, 2; type 14, 1; group F, 1; and unclassified, 1. We were unable to account for the low percentage of pneumococci present. In 14 cases Streptococcus viridans and in 2 cases Streptococcus haemolyticus were the predominating organisms. No attempt was made to correlate mortality with the type of pneumococcus. In 82 cases, leukocyte and differential counts were done one or more times.

Particular interest was centered in comparing the effectiveness of various therapeutic agents and the cases have been grouped accordingly.

SUPPORTIVE THERAPY

(a) Cures. Beginning with June, 1937,

From the Department of Medicine, Duval County Hospital.

Read before the Chattahoochee Valley Medical Society, July 9, 1940.

there were 65 consecutive patients treated with the so-called supportive and symptomatic therapy with which we are all familiar. In most instances, this consisted of bed rest, sedatives (usually morphine or codeine), maintenance of adequate fluid balance, and, if necessary, parenteral fluids with glucose and adequate nutrition. Oxygen, when indicated, was given by nasal catheter. Expectorants as well as stimulants, such as caffeine and whiskey, were used. Transfusions were given in cases of anemia.

TABLE I

	Serum	Supportive
Number	5	65
Deaths	0	27
Mortality	0	41.5%
Date of Admission		4.1 days
Date Afebrile after Therapy		4.8 days
Total Days of Fever		8.9 days
Sputa Typed	5	6

The distribution according to race and sex was as follows: 14 white males, 32 negro males, 8 white females, and 12 negro females.

Thirty-nine patients recovered, the mortality rate being 41.5 per cent. The average time of onset of illness before admission was 4.1 days. The average date of recovery was 4.8 days after admission. Seventeen patients recovered by crisis.

Complications arising were as follows: pleural effusion, 1; jaundice, 1. No case of empyema was found. In one of these patients pneumonia developed after trauma and in one it occurred postpartum.

(b) Deaths. Twenty-seven deaths occurred. The distribution of deaths according to race and sex was: 6 white males (a mortality of 42.8 per cent); 3 white females (mortality, 37.5 per cent); 11 negro males (mortality, 34.4 per cent); and 7 negro females (mortality, 58.3 per cent). In fourteen of the 27 cases postmortem examination was made. In fatal cases the average time of onset before admission to the hospital was 6.8 days. The complications noted were: (a) 1 case of empyema, 1 of empyema with chronic nephritis, cirrhosis of liver and pericarditis, 1 of empyema associated with lung abscess; (b) 2 of alcoholic delirium; (c) 1 of pleural effusion, 1 of pleural effusion with chronic nephritis; (d) 2 of jaundice and toxic hepatitis; and (e) 1 of mitral stenosis.

SERUM

Serum therapy, as routine treatment of the pneumococcal pneumonias, is financially impractical at the Duval County Hospital. There was no death among the 5 patients treated with serum. Three of these cases were type 1, 1 was type 2, and 1 was type 7. In one of the type 1 cases, the result of serum administration was dramatic and crisis occurred immediately. In the other 4 cases, the temperature fell by lysis in from 4 to 11 days. No complication occurred. The amount of serum given in several cases might well be regarded as inadequate. The number of patients treated by serum was too small to permit any conclusions whatsoever.

SULFANILAMIDE

During the years 1938 and 1939, 31 patients with lobar pneumonia were treated with sulfanilamide. Twenty-two of these patients recovered. The average day of admission after onset of illness was the fourth day. In the average case the patient was afebrile in 5.6 days. In 3 instances, fever dropped to normal within 24 hours. These patients were admitted on the first, fifth and sixth days of illness. Type 8 pneumococcus in the sputum was found in one case, but the pneumococcus was not isolated from the other two. One patient in group F also had an immediate crisis, but on the fifth day fever developed which continued for 7 days. Sulfanilamide therapy was stopped on the sixth day. One patient in group F recovered by lysis in 2½ days. Two patients of type 3 and one of type 14 also recovered by lysis. No complications occurred.

The method of administration of sulfanilamide, in most instances, was grains 20 every 4 hours for 6 doses and then every 6 hours until a therapeutic result was achieved. The same number of grains of sodium bicarbonate were given with the sulfanilamide.

No serious reaction to the drug was noted. Because of severe nausea and vomiting in one case, the drug was discontinued on the fourth day. In one patient cyanosis and delirium developed two days after a crisis-like response to sulfanilamide. In four patients a mild secondary anemia developed with a drop in the hemoglobin to about 60 per cent. A drug rash did not occur in any instance. There were no febrile reactions, no hemolytic anemia, and no agranulocytosis. Determinations of the blood concentration of sulfanilamide were not done.

The distribution of admissions of sulfanilamide-treated patients according to race and sex was: 4 white males, 18 negro males, 4 white females, and 5 negro females.

TABLE II

	Sulfanilamide
Number	31
Deaths	9
Mortality	29%
Date of Admission	4 days
Date Afebrile after Therapy	5.6 days
Total Days of Fever	9.6 days
Sputa Typed	6

Deaths. There were 9 deaths, the mortality rate being 29 per cent, in the sulfanilamide group. In this group there were: 2 white females (a mortality of 50 per cent); 6 negro males (mortality, 33.3 per cent); 1 negro female (mortality, 25 per cent). No white male died. Four patients were admitted on the fifth day of illness and one on the seventh day; it should, however, be pointed out that many who recovered were admitted on the fifth and several on the seventh day of illness. The average time of onset before admission was 4 days.

Sulfanilamide was used for 2½ and 6 hours, respectively, in 2 cases in which death occurred within 24 hours of admission. Another patient, who had both bronchial and lobar pneumonia with severe toxemia, was given the drug over a period of 10½ hours before death. With the exclusion of these cases, there was a mortality rate of 21.4 per cent for 28 cases. In not one of these cases was a pneumococcus isolated from the sputum. Six postmortem examinations were performed.

Three patients had consolidation of the entire right lung; in 2 the left upper lobes were involved; in 1, the right lower lobe; in 1, the right middle and lower lobes; in 1, the left upper and lower lobes; and in 1, the right upper and lower lobes and left lower lobe. In one patient pneumonia developed two days postpartum, in the hospital, and she failed to respond to two attempts at sulfanilamide therapy in addition to multiple transfusions. One case was complicated by pyonephrosis and renal calculus and another by cirrhosis of the liver.

SULFAPYRIDINE

Cures. Forty-six consecutive patients were treated with sulfapyridine during the years 1939 and 1940. Forty-two patients recovered. The average date of onset of illness before admission was 4.3 days for those who recovered. In most instances, an attempt was made to determine the causative organism by typing and culture of sputum.

In only 4 instances were pneumococci found. These were types 1, 3, 5, and 8. In 8 cases the predominating organism was Streptococcus viridans, and in 2 cases it was Streptococcus haemolyticus. The distribution of cases according to race and sex was: 17 white males, 15 negro males, 8 white females and 6 negro females.

The method of administration varied little from case to case. The usual regimen was to give 4 grams statim and 1 gram every 4 hours until the patient had been afebrile for 4 days. Then the dose was decreased to 7½ grains every 4 hours. Sulfapyridine, in most instances, was crushed and administered in milk. Now the tablets are so prepared that they quickly form an emulsion with water. Smaller doses of sodium bicarbonate were given with the sulfapyridine.

Determinations of blood sulfapyridine were done in only 5 cases and not routinely, so that no relation between reaction to the drug and its concentration in the blood could be established.

Twenty-one patients were afebrile in 24 hours or less; only 5 had fever longer than 2 days. In 33 cases, recovery was by a crisis-like fall of the temperature to normal. An average patient was afebrile in the remarkably short time of 1.4 days. Absolutely no relation could be established between the time of onset of illness before treatment and the response to the drug. In most instances, resolution of the chest lesions began shortly after the patient was afebrile. Complete resolution often required a week or more.

Toxic Reactions. Severe toxic reaction to the drug occurred in only 1 case. This will be discussed in detail because of its interest.

A 17 year old white girl was seen in the medical clinic two weeks prior to the onset of her acute illness. She gave a history of nephritis at the age of 4. The blood pressure was 194 systolic, 130 diastolic. The urinalysis showed a one plus albumin. The white blood count showed the presence of 17 per cent eosinophiles. The stool was positive for hookworm. The hemoglobin was 64 per cent. The impression at that time was that the patient had (1) chronic nephritis, (2) secondary anemia, (3) hookworm infestation. She was

admitted to the hospital and on the same day she had a productive cough, fever, chill, and pain in the right chest. Physical examination and roentgen study revealed a lobar pneumonia of the right lower lobe. The white blood count was 16,900; the sputum was negative; the blood culture was sterile.

Sulfapyridine, grains 30, and sodium bicarbonate, grains 15, were given statim and sulfapyridine, grains 15, with sodium bicarbonate, grains 10, were given every 4 hours. She became cyanotic and had severe nausea with occasional vomiting. Intravenous glucose in distilled water was given. She made a definite clinical improvement and the temperature became normal in 36 hours. The temperature rose again in 3 days, or after 4½ days of drug therapy, and it reached 104 F. on the fifth day, accompanied by increasing dyspnea. The concentration of sulfapyridine in the blood at that time was 14.6 milligrams. On the sixth day a generalized morbilliform rash developed and sulfapyridine was discontinued. Urinalysis was negative for blood, but showed a 3 plus albumin. The leukocyte count was 17,000. One thousand cubic centimeters of 10 per cent glucose was given intravenously three times daily. On the ninth day of hospitalization, the blood nonprotein nitrogen was 132 milligrams and the creatinin was 2.7 milligrams. Two days after the drug was discontinued the sulfapyridine blood level was 6.6 milligrams, despite the large amount of fluid which had been given. From 4,000 to 5,000 cubic centimeters of fluids were given daily and on the sixteenth day of hospitalization the nonprotein nitrogen was 105 milligrams and the creatinin was 3 milligrams. On the twenty-fourth day the nonprotein nitrogen was 95 milligrams, and the creatinin was 2.3 milligrams. At that time, the patient was symptom-free.

This case illustrates retention of sulfapyridine by a patient suffering from chronic nephritis with marked elevation of the nonprotein nitrogen. This case is an example of afebrile and skin reaction to sulfapyridine. Chronic nephritis is not a contraindication to sulfapyridine therapy, but constant vigilance must be maintained. It is interesting to note that certain authors have reported many cases in which the patient, without any other evidence of impaired renal function, had an increase in nonprotein nitrogen of about 10 milligrams under sulfapyridine therapy.

Two patients were thought to have had a sulfapyridine psychosis. One, a 45 year-old negro man, became irrational on the fourth day after admission and the third day after his crisis. The drug was not discontinued. Sedatives were given; and thiamin chloride, 3 milligrams, was given intramuscularly three times daily for two days. The patient's mental disturbance cleared in 36 hours. A 37 year old white man, 2 days after crisis, became irrational. The drug was not discontinued. The blood concentration of sulfapyridine was 5.3 milligrams. The patient made a spontaneous recovery from the mental disturbance in one day.

The majority of patients treated with sulfapyridine had nausea and vomiting, but in no instance was this condition severe enough to cause the drug to be discontinued. Various methods were used to combat this reaction. The drug was given crushed in milk. In many instances, it was given with elixir of lactated pepsin. Nicotinic acid was used, as this agent has been suggested to relieve nausea in sulfanilamide therapy. Intravenous glucose was given. The last-named method probably was the most successful, but the aforementioned efforts were not of much avail. Intravenous sodium sufapyridine, which was used for patients with illness other than pneumonia at the Duval County Hospital, caused nausea and vomiting. It has been reported in the literature that large amounts of the drug can be found in the stomach after intravenous administration. It has not been settled whether the nausea and vomiting are reactions of the central nervous system.

No case of hemolytic anemia, agranulocytosis, toxic hepatitis, renal calculus, or hematuria was found.

In one case, the hemoglobin dropped from 88 per cent, or 14.73 grams, to 47 per cent, or 8.3 grams, on the fourth day of hospitalization. Transfusions were given, and the drug continued. The patient recovered.

Complications. Empyema occurred in two cases. In one case the patient, when admitted on the sixth day of illness had a temperature of 103 F. The temperature fell to normal 48 hours after treatment with sulfapyridine was started. Then the temperature gradually rose despite drug therapy. Surgical

drainage of the empyematic fluid was employed and the patient recovered. Staphylococcus albus and Streptococcus viridans were isolated from the fluid. In another case empyema occurred in a white man who had aortic insufficiency. This patient, who had been receiving treatment for cardiac failure in the medical clinic, was admitted to the hospital on the third day of illness. The temperature fell to normal within 18 hours after sulfapyridine therapy was instituted. Twelve days after admission he had a low-grade fever. Aspiration of the chest on two occasions produced purulent fluid. Although no definite organism was isolated from the sputum, a gram positive diplococcus was found in the smear of the empyematic fluid. This organism failed to grow on culture. Surgical drainage was done and the patient recovered. A marked secondary anemia developed two weeks after admission for which he was given iron and transfusions. The cardiac disease was treated with digitalis and sedatives.

There were two cases of pleural effusion. A 21 year old white woman was admitted on the second day of illness. The temperature fell to normal in 48 hours, but quickly rose again and remained elevated for three days. The sputum contained Streptococcus viridans but no pneumococci. On the twelfth day there was again a decided elevation of temperature. The blood concentration of sulfapyridine at this time was 5.9 milligrams. Nine hundred cubic centimeters of cloudy fluid were removed from the left pleural cavity and Staphylococcus albus was isolated from this fluid. A secondary anemia of 60 per cent hemoglobin was treated with iron and a blood transfusion.

The other case of pleural effusion was that of a 48 year old negress who had been receiving treatment in the medical clinic for congestive heart failure. She was admitted on the first day of illness. Aspiration of the right side of the chest produced 500 cubic centimeters of cloudy yellow fluid. Hemolytic streptococci were isolated from this fluid. Roentgen study showed a lobar pneumonia of the right lower lobe and a large pericardial effusion. No attempt was made to aspirate the pericardial effusion because it, apparently, did not cause any cardiac embarrassment. Sulfapyridine caused a fall by lysis of the temperature to normal in 6 days. A marked anemia developed. Sulfapyridine was discontinued after 12 days of treatment. Three days after the drug was discontinued, the temperature was 101 F. The patient was given blood transfusions and sulfapyridine was again administered after which the temperature rapidly fell to normal where it remained.

TABLE III

	Sulfapyridine
Number	46
Deaths	4
Mortality	8.7%
Date of Admission	4.3 days
Date Afebrile after Therapy	1.4 days
Total Days of Fever	5.7 days
Sputa Typed	4

Deaths. There were 4 deaths, or a mortality of 8.7 per cent in the 46 cases treated with sulfapyridine. The distribution of deaths according to race and sex was: 1 white male, 2 negro males, and 1 white female. There was no death among the six negro females treated. We will discuss these deaths in detail in an effort to determine the cause of failure of drug therapy.

One death occurred in a 71 year old white woman who was admitted to the hospital in a semicomatose condition, suffering from uremia, with a nonprotein nitrogen of 78 milligrams and a creatinin of 2.7 milligrams. A urinalysis showed a 4 plus albumin and numerous red blood cells. Physical examination revealed a consolidation of the left lower lobe. The white blood count was 32,000. No sputum examination was reported. Parenteral fluids were given. Sulfapyridine was given with an initial dose of grains 30 followed by grains 15 every 4 hours. Death occurred 29 hours after admission.

The second death occurred in a 43 year old white man who was admitted 4 days after an acute onset of pain in the chest, fever, and a productive cough with a blood-tinged sputum. The patient had received a severe blow on the chest 4 days prior to the onset of the present illness, which was not considered at the time to be a causative factor. The patient was stuporous, cyanotic, and extremely toxic on admission. There was a left lower lobar pneumonia. The white blood count was 7,000; the blood culture was negative. No sputum was obtained. Sulfapyridine was given for the first 4½ days of hospitalization with no response. The patient died on the thirteenth day.

The third death was that of a 49 year old negro man who had been ill for 4 days. The

TABLE IV

TOTAL CASES 147 SEX AND RACE: NEGRO: Females 25, Males 64 WHITE: Females 20, Males 38 TOTAL CASES X-RAYED 84

	SERUM	SUPPORTIVE	SULFANILAMIDE	SULFAPYRIDINE
Number	5	65	31	46
Deaths	0	27	9	4
Mortality	0	41.5%	29%	8.7%
Date of Admission		4.1 days	4 days	4.3 days
Date Afebrile after Therapy		4.8 days	5.6 days	1.4 days
Total Days of Fever		8.9 days	9.6 days	5.7 days
Sputa Typed	5	6	6	4

patient was extremely toxic and cyanotic and had severe abdominal distention. There was a bilateral lower lobar pneumonia. The sputum contained hemolytic streptococci but no pneumococci. The white blood count was 8,050; urinalysis showed a 3 plus albumin. Sulfapyridine was given grains 30 statim and grains 15 every 4 hours. Nasal oxygen was started immediately and intravenous glucose also was given. The abdominal distention was combated with enemas and pitressin. The patient died 48 hours after admission. The postmortem examination confirmed the diagnosis of bilateral lower lobar pneumonia.

The fourth death occurred in a 29 year old negro man who was admitted on the third day of illness. Examination revealed a left lower lobar pneumonia. The blood culture was negative; the sputum contained nonhemolytic streptococci but no pneumococci. Sulfapyridine was given grains 60 statim and grains 15 every 4 hours. Glucose in normal saline solution was given by hypodermoclysis Within 36 hours the temperature was normal, but the patient did not appear clinically improved. The temperature stayed normal 16 hours and then suddenly rose to 102 F. The patient died 52 hours after admission. The postmortem examination showed a complete consolidation of the left lung with areas of lobular pneumonia in the right lung. It is possible that death was caused by a spread of the pneumonia which occurred despite sulfapyridine therapy.

Assuming that in the last two cases the patients had specific pneumococcal pneumonia, it is interesting to speculate whether they could have been saved with serum. It is possible that the intravenous administration of sodium sulfapyridine on admission might have been a life-saving measure. In not one of these cases was a blood sulfapyridine determination done, so one cannot tell if satisfactory concentrations of the drug were secured.

There was noted a comparative mortality rate of: (a) 41.5 per cent for 65 patients receiving only supportive measures, (b) 29 per cent for 31 treated with sulfanilamide, and (c) 8.7 per cent for 46 treated with sulfapyridine. Although the number of cases in each group is small, we think it can be definitely concluded that sulfapyridine is by far the most effective of the three in the treatment of lobar pneumonia.

SUMMARY AND CONCLUSION

One hundred forty-seven cases of adult lobar pneumonia admitted to the Duval County Hospital during the period from June 1, 1937 to April 1, 1940 have been reviewed. The number of cases treated with serum is considered too small for any conclusions to be made.

Sulfanilamide seemed to be curative in several cases and to cause a lowering of the mortality rate which may or may not be significant.

Patients receiving only supportive therapy were febrile for an average of 4.8 days after arrival, and the average total duration of illness was 8.9 days. Those receiving sulfanilamide were febrile for an average of 5.6 days after admission and had a total of 9.6 days of illness, which is hardly an appreciable difference from the results obtained with supportive treatment. The patients treated with sulfapyridine were febrile for an average of 1.4 days after admission and the average total duration of fever was 5.3 days.

Only 3 of the patients treated with sulfanilamide recovered by crisis within 24 hours, while 21 of those on sulfapyridine were afebrile in 24 hours.

It can not be stated from this group of cases that chemotherapy lowered the incidence of complications, but it is to be noted that 3 patients with empyema who received only supportive measures died, while 2 who received sulfapyridine together with surgical drainage recovered.

Severe toxic reactions to chemotherapy occurred in only 1 case. The patient was a young woman with chronic nephritis in whom sulfapyridine caused a febrile reaction, a rash, and the retention of nitrogenous substances. Chronic nephritis, we believe, is no contraindication to sulfapyridine, provided frequent blood determinations of sulfapyridine concentration are done and the patient is watched closely for toxic reactions.

Sulfapyridine seemed lifesaving in 2 cases of congestive failure with lobar pneumonia. We believe that all patients with lobar pneumonia should have their sputum typed so that type specific serum and sulfapyridine may be given in certain selective cases. This might further lower the mortality rate.

The routine determination of the concentration of sulfapyridine in the blood 12 hours after the oral administration of the drug would give a more accurate control of the therapy. It would also indicate cases in which intravenous sodium sulfapyridine should be used to secure adequate blood concentration. We believe that this concentration should be approximately 6.0 milligrams of free sulfapyridine per 100 cubic centimeters of blood.

357 St. James Bldg.

CHEMICAL CYSTITIS CAUSING FIBROTIC CONTRACTION OF BLADDER: TREATED BY SUPRAPUBIC DILATATIONS

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The purpose of this communication is not to present a long discussion of the various types of cystitis and their treatment, but merely to describe a new procedure used in a case of fibrotic contracted bladder caused by self-intravesical instillations of strong chemicals for a gonorrheal infection. The literature is replete with excellent classifications, descriptions and methods of treatment of cystitis; however, in order to present this paper intelligently we must briefly review the surgical treatments for this condition, as all the other procedures left the patient unimproved or showing only very slight improvement.

The surgical treatments described by Hager[1] are:

a. Topical applications.
b. Electrocoagulation of specific lesion.
c. Bladder rest:
1. By indwelling urethral catheter (continuous irrigation).
2. Cystostomy.

There are a small group of bladder infections which require surgery for relief. Some are acute and fulminating, others are chronic and of long standing. Both are greatly benefited, if not cured, by putting the bladder at rest. Other major surgical operations applicable to the relief of persistent and painful cystitis are neurosurgery and the transplantation of the ureters into the colon or skin.

REPORT OF CASE

J. L. P., aged 23, male, white, married and childless with wife living and well, was readmitted to the hospital on Jan. 3, 1939, for the ninth time, having also been in another hospital twice for the same condition. The chief complaints were pain in the region of the bladder, nocturia every fifteen to thirty minutes, dribbling, and spasms of the bladder every thirty minutes. He was wearing a urinal because of constant urination.

History.—The patient stated that in 1933 he had contracted a gonorrheal infection and, instead of consulting a physician, had obtained what he described as a white medicine and some pills from a druggist with which he had treated himself for four weeks. Later he had continued the treatment with potassium permanganate and claimed that the discharge had stopped for approximately four weeks and then had begun again. On the advice of a friend he had next instilled a mixture of kerosene and potassium permanganate into his bladder for a period of about three or four weeks. Soon he had begun to have

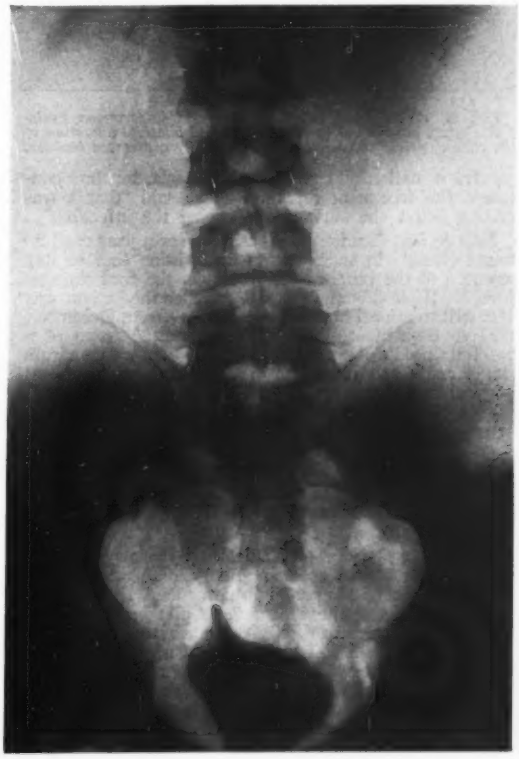

Fig. 1. A cystogram, made on last admission of the patient in January 1939, revealed a contracted bladder of two-ounce capacity. Pain was felt even though spinal anesthesia had been used and the bladder dilated with two ounces of fluid.

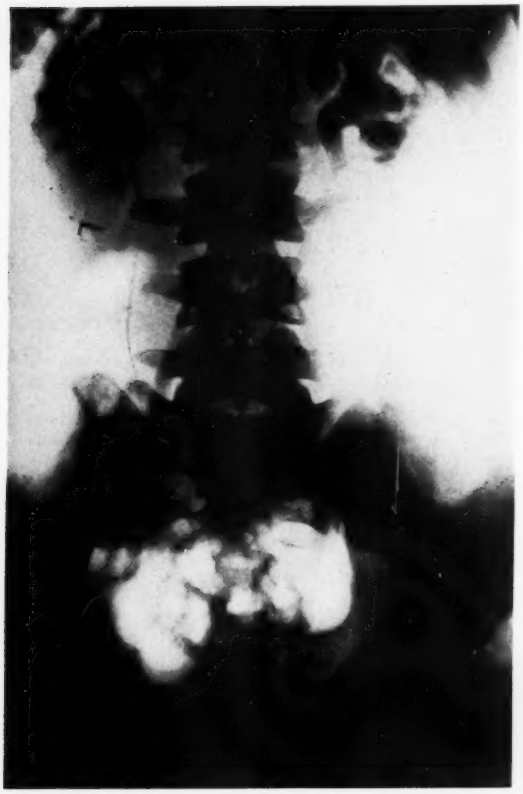

Fig. 2. A forty-five minute film of an intravenous pyeloureterogram carried out in 1934. It revealed bilateral dilatation of the calices, pelvis and ureters, and a greatly contracted bladder.

painful urination and terminal hematuria, but had continued the treatment thinking, as he said "that I was getting below the surface and curing the infection."

This self-medication had continued for a year until he found himself in such a critical condition that he had reported to the hospital for treatment the first time on June 19, 1934. From June to December the patient was admitted to a local hospital three times. From December, 1934 to September, 1935 he was admitted twice to a hospital in Washington, D. C., and then again, from October, 1935 to June, 1939 he was admitted to a local hospital five times.

Examination.—On admission, the physical examination of the patient gave negative results except for tenderness on palpation in the anterior lower portion of the midabdomen. His blood pressure was 126/70. Rectal examination revealed the sphincter of good tone and the prostate small, smooth and firm. There was no bulging of the seminal vesicles.

Laboratory findings.—Urinalysis on January 4 showed an alkaline reaction, specific gravity 1007, albumin one plus and pus cells one per high power field. Examination of the blood gave the following result: hemoglobin 86 per cent, erythrocytes 4,300,000, leukocytes 6,100, polymorphonuclears 50, lymphocytes 36, monocytes 1, eosinophils 12, basophils 1, nuclear index 4 and color index 1. The Kahn test gave negative results as did examination of the stool. A culture of the urine showed colon bacilli.

Cystoscopic Examination.—With the patient under spinal anethesia instrument No. 24 was passed with considerable difficulty. The mucosa of the bladder was thick, swollen and irregular; the normal capillary network of vessels could not be seen. There were no stones, tumors, nor diverticula; ureteric orifices appeared normal in position but large in size and gapping. The capacity of the bladder was two ounces; there were definite spasms at the neck, as could be felt by the gripping on the instrument.

Cystography.—A cystogram (Fig. 1) revealed a contracted bladder with a two-ounce capacity. This slight dilatation, even under spinal anesthesia, was painful to the patient.

Diagnosis.—A diagnosis of fibrotic contracted bladder (chemical), fibrotic prostate with obstruction of the neck of the bladder, and urethral stricture was made.

Review of Previous Admissions.—A review of the past history and previous admissions of the patient revealed that in 1934 a pyeloureterogram (Fig. 2) showed bilateral dilatation of the calices, pelvis and ureters, and the bladder greatly contracted. In the pyeloureterogram of 1936 (Fig. 3) improvement of the hydronephrosis and contracted bladder was shown but the original symptoms persisted. The cystogram of that date (Fig. 4) demonstrated the reflux to the ureters (kidneys) on an attempt to dilate the bladder.

Treatment.—In view of the history, the treatments carried out during previous admissions and the obvious danger to the ureters and kidneys of further dilatations either by syringe or gravity method, it was decided to do a suprapubic cystostomy. This operation was done under local anesthesia on January 18. The bladder was contracted, its wall very thick, and the prostate firm; on palpation of the neck of the bladder a definite spasm was felt. A mushroom catheter was inserted after suture of the bladder to the fascia, and the wound was closed in layers.

The patient continued to have spasms of the bladder,

Fig. 3. This forty-five minute film of an intravenous pyeloureterogram, taken in 1936, revealed a contracted bladder and dilatation of the calices and pelvis, but also demonstrated a considerable degree of improvement over the condition two years previously shown in Figure 2.

needing morphine frequently to control the pain. The mushroom catheter had to be removed as it was causing considerable pain, but even without the tube the pain and spasms continued. It seemed that the operation had not helped the condition.

As the patient was a young man, I hesitated to resort to neurosurgery or ureteral transplant. The thought occurred to me that the bladder could be dilated suprapubically, without causing damage to the ureters or kidneys, by means of a rubber bag inserted through the suprapubic wound into the bladder and then dilated with water, which in turn would dilate the bladder. Accordingly, on February 7, after an anesthetic of gas and ether had been administered to the patient a rubber bag was inserted into the bladder through the suprapubic wound and filled with seven and one-half ounces of water. At this time no more water was instilled because of the danger of dilating too rapidly. The bag was held in the bladder for twenty minutes and then removed. The patient had severe pain for from four to five days, but stated that he felt a little better even though there was considerable pain in the neck of the bladder and added that he thought if the prostate were removed he would get well.

On February 22 the procedure just described was repeated and this time twelve ounces of water were instilled into the bag. The urethra was dilated up to 32 Fr., and, since the spasms still persisted at the neck of the bladder, a V-shaped section of the neck was removed with a loop. The section measured 2 by 8 mm., showed no epithelial covering and was fibrous, edematous, vascular and infiltrated with many lymphocytes and plasma cells and a few polymorphonuclears. The pathologist's diagnosis was that of fibrotic tissues resulting from an inflammatory process.

Following this second operation the patient improved.

Fig. 4. A cystogram, taken in 1936 when the bladder was dilated, showed the reflux of opaque media to the ureters and also a filling of the posterior urethra.

Fig 5. A cystogram taken on Feb. 13, 1940, thirteen months after the last admission to the hospital, demonstrated the result of treatment by suprapubic dilatation. The bladder had become normal in contour and of average size. Twelve ounces of opaque media were instilled without causing pain or reflux to the ureters.

The pain and spasms were now mild, and there was no need of opiates. Since a culture of the urine had revealed colon bacilli (Escherichia acidi lactici), it was thought that part of the irritation still present might be due to this infection. The patient was given mandelic acid and placed on a acid ash diet for two weeks. Although this treatment helped and there was considerable improvement, the symptoms did not completely disappear.

On March 27 the bladder was again dilated and fourteen ounces of fluid instilled into the bag. The wall of the bladder was of normal thickness and smooth, and palpation of the neck of the bladder indicated the absence of spasms. After this last dilatation the patient improved rapidly and would go for hours without pain. The suprapubic wound was allowed to heal, and no further medication was carried out. On April 19 the patient was able to void, and the wound was completely closed. He was feeling very much better, although he had frequency of urination and nocturia once a night. The spasms had disappeared, and there was no burning on urination. He now had full control of the bladder and passed as much as twelve ounces of urine.

The patient was discharged from the hospital on April 23. On May 1 he complained of nocturia once. On July 11 he was without pain, frequency of urination and nocturia; he had full control of the bladder and was able to retain from twelve to fourteen ounces of urine. When last seen on Feb. 13, 1940, he was comfortable, and all symptoms had disappeared. A cystogram (Fig. 5) of this date revealed that the bladder was of normal contour, average in size and without deformities. Twelve ounces of opaque media were instilled without causing pain or discomfort.

SUMMARY

In this case the bladder was dilated suprapubically, the urinary infection was treated with mandelic acid, a V-shaped section was removed from the neck of the bladder to relieve the obstruction and the urethra was dilated. However, after observing closely the history and progress of the patient, I am convinced that complete recovery was not possible without dilatation of the bladder as shown by the fact that the cystostomy did not relieve the symptoms. Suprapubic dilatation is a simple procedure that should be used in obstinate cases of contracted bladder.

REFERENCE

1. Hager, B. H.: Infection of the Bladder, in Cabot Hugh, editor: Modern Urology in Original Contributions by American Authors, ed. 3. Philadelphia, Lea & Febiger, 1936, vol. 2 chap. 4, p. 87.

First National Bank Bldg.

USE OF THE WANGENSTEEN AND LEVIN TUBES

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We have come, through experience, to have great respect for the Levin tube as an instrumental aid in the cure and comfort of the extremely ill, as well as for certain diagnostic procedures. It was first described by Levin[1] in 1921 and is a uretheral catheter type of tube, 45 inches or more in length, with markings 18, 22, 26, and 30 inches from the tip. It is obtainable in sizes twelve, fourteen, sixteen and eighteen French gauges.

The Wangensteen tube is similar to a Levin tube but with three inches of the tip made of rubber so impregnated with lead as to make it serve as a terminal weight. The comments in this paper, while referring to the Levin tube, apply equally to the Wangensteen tube, which in some instances is the tube of choice.

These tubes differ from the previously popular Einhorn, Rehfuss, Twiss, and Jutte tubes in that they are single, long tubes with a smooth tip, the distal end of which has smooth, oval, fair-sized openings to allow drainage over a space of several inches. The Rehfuss and some other tubes have a metal attachment at the distal end. The Wangensteen and Levin tubes have a great advantage over the large sized Faucher stomach tube which has become, in some degree, a relic of early twentieth-century medicine.

The size and quality of the Levin tube is such that it can be passed into the stomach or duodenum by the nasal route. Some of the advantages of the Levin tube and the nasal route may be listed as follows:

1. The patient is unable to bite the tube, thus giving the physician complete control of the process of insertion.

2. There is an absence of tickling of the soft palate with a decrease in the amount of retching.

3. The walls of the tube are sufficiently strong to withstand suction without collapse and to permit its passage without a stylet, thus allowing its use in an unconscious or anesthetized patient.

4. The smooth tip will pass easily into the duodenum and the tube, being fluoroscopically visible, makes it the instrument of choice for draining the gallbladder, especially when one considers the relative comfort of the patient throughout the time required for this procedure. The leaded tip of the Wangensteen tube makes it preferable in this instance.

5. The openings are less likely to become blocked by food or mucus because of their large size, velvet eyes and their distribution over several inches of tube.

6. The ease with which it can be withdrawn, due to the lack of a metal tip, is an added comfort to the patient.

In diagnosis, the Levin tube is valuable for aspiration of gastric or duodenal contents for analysis.

In surgery, it is frequently of use in cases of postoperative gastric dilation and for the removal of gastric contents after an operation in order to relieve pronounced postoperative nausea and vomiting. During gastro-enterostomy it may be passed into the duodenum through the pylorus at the gastro-enterostomy opening to introduce fluids directly and immediately into the duodenum.[2] In other upper abdominal operative procedures, where fluid is desired in the duodenum during or after operation, the tube can be passed by the nasal route during the operation and the tip guided into the duodenum through the pylorus. It has been recommended recently that in cases

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of esophageal stricture from swallowing lye, the Levin tube with a wire stylet may be used for gradual dilation of the stricture.[2]

As a therapeutic measure, the Levin tube is most frequently used in the drainage of the bile tract. Its use has also been recommended for the instillation of medicaments in the treatment of duodenal ulcer, duodenitis, strongyloidosis, for duodenal feeding in the treatment of ulcer, duodenal fistula, etc., for the instillation of cultures of bacteria to combat intestinal toxemia. Levin suggests the use of the tube for the instillation of oxygen into the duodenum, when indicated.

Use of the tube in lung diseases may be best illustrated by the following case:

J. B. G., a female, aged 65, was first examined on February 21, 1936, before sulfapyridine was available, and was found to be in an extremely dehydrated condition, with a temperature of 102 F., acidotic breath, respiration 35, obstipation and pain in the lower left chest. A diagnosis of bronchopneumonia was made. The following day, at 4 a. m., 7 a. m., and 10 a. m., the nurse's record showed that the patient was nauseated and vomiting and unable to retain anything by mouth. At 10:30 a. m. the Levin tube was inserted by the nasal route, the stomach washed until water returned clear, and the tube left in place for 3 days. During this period, the patient did not suffer from nausea or vomiting.

This case is mentioned in order to suggest more frequent use of the Levin tube in patients critically ill with pneumonia so as to have more perfect control of the gastric intake and output. All patients with pneumonia swallow large amounts of infected sputum which hinders the action of the stomach and intestines. In this use, the tube serves several distinct purposes: (1) its retention in the stomach permits frequent gastric lavage which keeps the stomach in as clean and healthy a condition as possible; (2) in a dehydrated patient, as in the case reported, water intake is important and with the Levin tube in place, it is possible to administer water at frequent intervals, even while the patient is asleep or unconscious; (3) nourishment in the desired amount can be given; (4) any medication desired can be given without disturbing the patient. These uses are of particular importance when the patient is continually nauseated, at times retching or vomiting, and unable to retain water, nourishment or medicine by mouth. A summation of these advantages shows a more comfortable patient throughout a critical illness, thus facilitating recovery.

The use of the Levin tube in diseases of the heart may be illustrated by the following cases:

In 1932, in the wards of the Charity Hospital in New Orleans where this tube is widely used for many purposes, I treated an extremely severe case of coronary thrombosis. As a complication, there was severe retching and hiccups, after a state of unconsciousness had intervened. We immediately passed a Levin tube through the nose to maintain constant drainage of the gastric contents. This procedure relieved the patient of retching and hiccups as long as the tube was left in place. Its use was required for a period of about ten days until the patient returned to consciousness; several weeks later she was discharged from the hospital. When last heard of, several years later, she was still in relatively good health. I have repeatedly used this tube in similar cases.

E. V. T., aged 62, was admitted to the hospital May 19, 1935, with a diagnosis of severe coronary thrombosis. Her condition on admission was such that she was immediately put in an oxygen tent. Due to nausea and vomiting, the latter containing some blood, the Levin tube was inserted in the stomach by the nasal route and left in place until shortly before her discharge two weeks later. After the tube was inserted, the stomach was cleansed thoroughly and kept in a constantly clean condition. While in place, the tube was used for the administration of medicines and liquid foods as desired. After two weeks the patient was discharged from the hospital and kept in bed for several months. A second attack of coronary thrombosis occurred on August 8, 1935, when her condition was critical. The Levin tube was used continually until her discharge four days later for another four months' stay in bed. Two years later, in August 1937, this patient withstood an acute attack of malaria complicated by bronchopneumonia and is now enjoying relatively good health.

The use of the Levin tube in systemic diseases is illustrated by the following case:

E. A. B., a female aged 68, was admitted to the hospital on September 18, 1935, with a diagnosis of diabetes associated with marked hypertension, severe chronic pyelonephritis and a past history of recurrent gallbladder attacks. Her blood sugar was 360 mg. per 100 cc. with a nonprotein nitrogen of 50 mg. On September 21, the blood sugar was under control but there was a rise in the blood nonprotein nitrogen to 100 mg. and on September 24 this was further elevated to 150 mg. On admission, September 18, a Levin tube was inserted into the stomach by the nasal route and was kept there until October 5, two days prior to her discharge. During the first days of her illness, the stomach was frequently lavaged with 5 per cent sodium bicarbonate solution and large quantities of bile, which had regurgitated into the stomach, were removed. On September 24, when the blood nonprotein nitrogen was 150 mg., a specimen of undiluted bile content syphoned from the stomach showed nonprotein nitrogen of 60 mg. per 100 cc. This finding might possibly indicate that the liver was attempting to take over a part of the excretory function of the diseased kidneys and would seem to suggest the advisability of the constant use of the Levin tube in all cases of uremia. The patient was discharged from the hospital on October 7, with a nonprotein nitrogen of 50 mg. and enjoyed relatively good health for some months.

CONCLUSION

In addition to many recognized uses of the Levin type tube listed herein, I would like to suggest its more frequent use in practically all critical illness wherein the gastric activity is below par; and further, to draw particular attention to its use in bronchopneumonia, coronary thrombosis and severe systemic illnesses.

REFERENCES

1. Levin, A. L.: A New Gastroduodenal Catheter, J. A. M. A. **76**: 1007 (Apr. 9), 1921.
2. Levin, A. L.: Personal Communication.

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MANAGEMENT OF MAJOR INJURIES

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In presenting a paper on this subject which covers so large a field, I am prevented from going into any detail and will necessarily have to be brief in my discussion, but I will try to cover the important points both as to management and treatment. I believe it would be fitting to take up injuries according to their anatomical location, beginning with the head.

The automobile is responsible for the majority of injuries that we now see in the average practice. A patient is often admitted to the hospital with a severe concussion and may have a fracture of the skull in addition to several fractures of the long bones. A great deal of thought and judgment is required in such cases in order to save the patients' lives and restore them to a normal condition.

Head injuries consist of: (1) severe lacerations of the scalp with profuse hemorrhage; (2) concussion of the brain; (3) contusion of the brain; (4) laceration of the brain; (5) fractures of the skull which may be further subdivided into basal, depressed, compound.

One or all of these conditions may exist. When a patient has suffered any of these injuries and there is severe shock present, the shock should be treated first. A careful examination should then be made and whatever treatment is indicated should be instituted immediately, or as soon as it is thought that the patient will withstand surgical procedure. I would like to emphasize that any injury, no matter how trivial, should be taken care of immediately, especially when there is a fractured bone or much devitalized tissue present. If we are too busy or are otherwise occupied, we should refer the patient to another doctor for immediate care and not (as I have frequently seen supposedly good surgeons do) place the patient in the hospital, apply hot compresses, and give him treatment when convenient. This practice should be unhesitatingly condemned.

In severe lacerations of the scalp without damage to the bone, a thorough cleansing is necessary. The hair should be shaved, the wound thoroughly cleansed with soap and water and then irrigated with warm saline solution until all foreign material and blood clots have been removed. The incision should then be draped as in any major operation. A five-tenths or one per cent procaine solution should be injected, the bleeding points ligated carefully, and devitalized tissue excised with a sharp scalpel. Afterwards the wound should be thoroughly inspected for any damage to the bone or any remaining foreign material. The edges of the wound should be approximated carefully with fine nonabsorbable sutures which should pass through the galea aponeurotica as well as through the skin. If there has been much trauma to the underlying scalp, a small rubber drain should be inserted. Otherwise, complete closure should be done. One may seem unjustified in taking all of these precautions with apparently trivial head injuries but unfortunate and undesirable complications have arisen from such injuries which have not been carefully examined and treated properly. I recall having seen one patient who was disabled for a number of months by osteomyelitis and who lost a large area of the scalp as a result of improper treatment.

Concussions of the brain may be extremely mild or profound. When a person is stunned or rendered unconscious for a short time by a blow on the head, he is said to have sustained a cerebral concussion. No special treatment is necessary except that complete rest and observation for a few days should be advised as more serious symptoms may appear later, indicating delayed intracranial bleeding. When the patient remains unconscious for more than a few hours there must be contusion or more severe injury to the brain substance. When there has been actual bruising of the brain tissue and rupture of small vessels the patient is likely to remain unconscious for a longer period of time. After regaining consciousness he will usually be irritable, fretful, or in a stupor; also he may present weakness of the facial muscles, hemiplegia, or ocular disturbances. The condition depends upon the degree and location of the damage. These patients should be treated by rest in bed until the headache, vomiting, and evidences of cerebral irritation have entirely disappeared. The intake of fluids should be limited to not

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more than 1500 cc. in twenty-four hours. Lumbar punctures should be done if indicated but in the milder cases this should be omitted. When a patient is unconscious, sedatives can be given rectally or by hypodermic. Magnesium sulfate should be given when dehydration is indicated. Dehydration is usually necessary in these cases but should not be carried too far as it may result in more damage than good. When a patient has slight delirium, sedatives such as nembutal or other barbiturates should be administered in small quantities for complete sedation. Morphine should not be given because of its depressing effect on the respiratory center. If the patient has cervical rigidity, lumbar punctures should be done and the canal thoroughly drained. When there is much blood, daily punctures should be done until the fluid is clear. This procedure promotes the patient's comfort and also will shorten the period of disability.

Laceration of the brain is a much more serious condition and will frequently result in permanent disability or even death. Usually where there is a laceration there is also a depressed or compound fracture. If there are signs of localized injury to the brain tissue, exploration of that area should be undertaken. If the brain is found to be lacerated, bleeding points should be controlled. I might add in this connection that if a neurologic surgeon is available, this type of case should be referred to him. Any foreign substances found in this area should be removed; various contused areas should be resected and all bleeding points controlled.

The frequent uncomplicated types of linear fractures require no special treatment. The diagnosis is usually made by the roentgenologist. There are very few symptoms. These patients should be kept absolutely quiet for a period of several days and allowed to be up and about as soon as the signs of cerebral irritation have disappeared. When linear fractures are complicated by involvement of the dural sinuses, they become serious. In these cases meningitis may develop. Most of the dural lacerations will heal spontaneously if left alone. Irrigations of the nose should not be done. As a preventive measure large doses of urotropin or sulfanilamide may be given, the latter drug being the most efficient.

Laceration of the middle meningeal artery or one of its branches requires prompt operative intervention. One should always bear in mind the possibility of intracranial bleeding following these injuries and if the patient suddenly becomes stuporous or goes into a coma, he should be carefully examined for localizing neurologic signs. Basal fractures are usually linear and are an extremely serious type of injury, the mortality rate being high. When these fractures involve the ear with rupture of the tympanic membranes and with a leakage of spinal fluid, conservative treatment is indicated. No irrigations of the ear or lumbar punctures should be done.

In depressed fractures where there is definite evidence of brain pressure, operation is indicated. If there is severe damage to both bone and brain tissue, operation should be carried out without delay; all devitalized tissue and foreign material should be removed and all bleeding points should be ligated. A blood transfusion will be of benefit if the shock is great.

Under compound fracture we include those fractures of the vault which are associated with a break in the continuity of the scalp. Fractures in which there has been contamination need immediate care. If the patient is in shock, this should, of course, be controlled before any operative procedure is undertaken. When the patient's general condition is found to be satisfactory for operation, the scalp should be shaved and carefully washed with warm water and soap; the wound thoroughly cleansed with ether and alcohol, and whatever antiseptic necessary used. When the scalp has been anesthetized with one per cent procaine, the edges of the wound should be carefully inspected. If there is contused tissue or gross contamination, this should be trimmed away until healthy tissue is reached. All bleeding points should be controlled, and the depths of the wound thoroughly searched for foreign material. After thorough cleansing, the brain covering should be closed as tightly as possible and a sterile dressing applied.

Leaving the head we take up, in order, injuries to the spine, thorax, abdominal cavity and fractures in general, including simple and compound fractures of all bones.

Due to the extreme violence of automobile accidents, instances of serious injury to the thorax, abdominal cavity, and the contained viscera are numerous. It frequently develops that

a patient who has received a rather severe fracture of one of the vertebrae appears in excellent condition upon first examination but later notes tenderness over the spine in the location of the injured vertebra. I had occasion recently to see three such cases. In one there was a compressed fracture of the fourth and fifth lumbar vertebrae received when the automobile in which the patient was riding went over a railroad track and threw her a slight distance up in the air, causing her to be thrust suddenly back on the seat. She did not consider her injury to be of any consequence until the following day. Examination revealed tenderness over this area and muscular rigidity, and roentgenograms showed compressed fractures of the bodies of the fourth and fifth lumbar vertebrae. In another case injury occurred when the patient was thrown up on the seat while driving a tractor.

These patients require bed rest and some form of frame for producing hyperextension of the spine and then a well fitted spica cast for from eight to twelve weeks followed by a Taylor or other type of brace for an indefinite period. Where there is a dislocation, traction and hyperextension under anesthesia or gradual extension over a period of time is indicated. The treatment then is as in fracture.

Severe contusion of the chest occurs frequently when the patient is thrown from a vehicle or against the steering wheel. Roentgenologic examination will often disclose fractures of ribs and occasional evidence of internal hemorrhage. Where there is definite contusion to the lungs and mediastinal contents the prognosis is grave. The treatment should be rest, sedation, blood transfusions, and fluids by the intravenous route. Where there is evidence of damage to the abdominal viscera an exploratory operation is indicated. If there is evidence of internal hemorrhage abdominal exploration should not be delayed.

The next major injury of importance is the one we most frequently encounter, namely, fractures, both simple and compound. The time to reduce and to treat a fracture is as soon after its occurrence as possible, the patient's condition permitting. If there is a great deal of shock and if other injuries have occurred the fracture becomes a matter of secondary importance. In the case of a simple fracture early reduction and proper immobilization are the only treatment necessary. This procedure should be done properly and the injured member watched closely for swelling and other evidences of complications. Where the fracture is compound, experienced surgical judgment and reasonable technical skill are of the utmost importance. Operative procedures can not be uniform because of the wide variation in the local damage and systemic shock. Thorough surgical cleansing and adequate débridement followed by reduction and external immobilization are both of prime importance. The selection of any surgical procedure depends upon the length of time that has elapsed since the injury and the degree of inflammatory reaction encountered. During the first twenty-four hours we deal with a soiled and contaminated wound but after twenty-four hours the inflammatory reaction gives rise to septic possibilities of uncertain consequences. The method of treatment advanced by Orr obtains immobilization by plaster and internal fixation by use of small Steinmann pins or Kirschener wires. Other forms such as Braun frames, Thomas splints, or overhead frames with traction have been used by some surgeons with excellent results.

In dealing with a compound fracture, the area around the wound should be thoroughly cleansed and all devitalized tissue cut away as soon as the patient's condition permits. Bone fragments and foreign material should be removed. However, before this is done a Kirschener wire or Steinmann pin should be properly placed. The wound itself, after thorough débridement, should be cleansed by means of a copious quantity of normal saline solution, soap, water and diluted alcohol. I do not believe strong caustic antiseptics should be used as they devitalize normal tissue and prepare a place for bacterial growth. Torn fascia may be approximated loosely and where there is an extensive laceration of skin this may also be loosely approximated but the wound should not be completely closed. The fragments of bone should be approximated as nearly as possible, and the wound lightly packed with vaseline gauze; after this a wellfitting plaster bandage should be applied. These wounds should be watched closely but not dressed for a period of from two to three weeks. There are numerous mechanical aids for holding the Steinmann pins and wires, which are of great assist-

ance in maintaining the fragments in place until the plaster has been applied and properly dried. When these appliances are available they should certainly be used although they are not necessary for adequate treatment.

In the treatment of compound fractures and severe injuries, there are several preventive measures which reduce the mortality and morbidity rate.

At the Orange General Hospital we have for a long time used the prophylactic dosage of tetanus antitoxin and during recent years we have been using gas bacillus antitoxin in prophylactic doses. This I believe, has greatly reduced the mortality from gas gangrene infection and, along with thorough débridement, is responsible for preventing this type of infection. It has been shown that the anaerobes which produce gas gangrene are not in themselves pathogenic, unless they are in combination with the toxic metabolic products or are allowed to form them. If a culture containing anaerobes is washed carefully and injected into the tissues of experimental animals neither gas gangrene nor any other infection occurs. If, however, these organisms are mixed with a small amount of culture filtrate or with any material containing their toxins, typical gas gangrene will occur. Therefore, it is evident that the thorough cleansing and removal of devitalized tissue are just as important as the use of prophylactic doses of serum. We have also had recent experimental evidences that sulfanilamide and its various compounds are useful both for prophylaxis and for the active treatment of gas gangrene infection. Excellent results have been reported in the use of sulfanilamide in the treatment of gas gangrene infections and further experimental studies are in progress.

Another condition which I consider a major injury is a burn, especially one produced by fire or chemicals. When a patient who has received a severe burn is first seen, if he is not in too great a shock, treatment is immediately begun. If shock is present, however, measures are taken to combat this and as soon as the patient's condition permits, treatment of the burn is instituted. Morphine in adequate doses should be given in the beginning. The burned area should then be thoroughly cleansed and all grease or other preparations removed. If necessary, this should be carried out under an anesthetic. The patient should be placed in bed, preferably on sterile sheets. The burned areas should be sprayed with a freshly prepared 5 per cent solution of tannic acid, several applications usually being necessary, and then painted with a 10 per cent solution of silver nitrate. A frame should be placed over the bed and constant heat applied by means of electric light bulbs attached to the frame. Liberal amounts of fluids should be given by mouth, intravenously, or both, depending upon the condition of the patient. The burned area should be kept under constant observation, sepsis watched for closely and treated promptly. The eschar should be loosened gradually and any raw areas remaining should be skin grafted as early as possible so as to prevent disabling scars.

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TREATMENT OF MINOR INJURIES

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Because of the potentialities of secondary results, the treatment of minor injuries is important to the Railway Surgeon. Abrasions, contusions, lacerations, puncture wounds, burns, strains, sprains, most dislocations and certain fractures are generally considered minor injuries; all, however, are potentially serious. Naturally, the possibility of infection must be considered in all these conditions. A brief discussion or resume of the generally accepted procedures with mention of some of the newer ones should be timely.

Abrasions as such, are usually cared for by simple cleansing and the application of an antiseptic dressing. This may be any one of the several popular antiseptics such as tincture of merthiolate, mercresin, metaphen, tincture of iodine, or the alcohol-acetone solution of mercurochrome. When there is much dirt or grease on the abraded surface, it is well to use gasoline followed by ether to clean the surface after which the antiseptic is applied. Many abrasions are accompanied by severe contusion, and these will require the application of hot moist dressings instead of simple antiseptic dressings. The possibility of the introduction of tetanus spores must not be overlooked and antitetanus serum should be given whenever remotely indicated.

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CONTUSIONS, particularly those over bony surfaces, must be carefully noted and recorded. The patient should be warned to take notice of any unusual lump on the bone even though it occurs long after the injury. The immediate bony reaction may be a simple swelling of the periosteum or an active osteoperiostitis, while the late lump may be a malignant growth. Usually the primary treatment should consist of hot moist dressings, changed whenever dry, and continued until all the swelling disappears.

Contusions that may result in damage to internal organs are not classed as minor injuries and will not be considered here. Suffice it to say that rupture of hollow or solid viscera can be caused by contusions that do not break the skin, and one should not fail to look for and question the patient about the possibility of such injuries having occurred.

LACERATIONS, especially those involving tendons, call for painstaking débridement and suturing. All torn and devitalized tissues should be cut away by sharp dissection. After bleeding has been controlled, any divided tendons should be carefully sutured and the wound closed, sufficient space being allowed between the skin sutures for adequate drainage. Wounds of this type can best be cleansed by gasoline followed by ether, and should be thoroughly swabbed with a good antiseptic. Personally, I prefer tincture of merthiolate. When there is likely to be much swelling a hot moist dressing of boric acid solution, normal saline, or magnesium sulfate solution should be applied. A dressing of hexylresorcinol solution or one containing glycerin is often useful because of its hygroscopic action.

Lacerations that penetrate deeply and are badly contaminated should be closed with drains, or with Carrel-Dakin tubes placed for continuous irrigation with a hypochlorite solution. In addition to the tetanus antitoxin, which should be a routine treament for ragged or soiled lacerations, all deep lacerations should be protected by the prophylactic injection of gas bacillus antitoxin. Lacerations involving tendons must be splinted, the splints being placed in such position that any resulting contracture will be in a line that will not interfere with normal function of the tendons.

PUNCTURE wounds at once call for thorough cleansing and proper prophylaxis for tetanus and gas bacillus infection. When the wound extends deeply, it should be opened by incision and the depths explored in an effort to remove any foreign material that might have been carried into it. Another danger of puncture wounds is injury to large blood vessels. No considerable hemorrhage or hematoma from a puncture wound should be neglected. The tumor should be opened and the bleeder ligated or thoroughly packed with gauze. Ordinarily the packing can be removed or replaced in twenty-four hours.

BURNS. The subject of treatment of burns can be discussed for longer than the time allotted this paper. The type of burn, its location, and the time at which the physician first sees it, will influence the treatment. Fire burns usually are more severe than those due to moist heat such as steam or hot water. Chemical burns are in a class by themselves. For some burns, the prompt removal of devitalized tissue followed by the application of the dressing that has proved most satisfactory in the hands of the individual physician is sufficient. Five per cent tannic acid, sprayed on, has somewhat superseded the picric acid treatment of a few years ago. More lately, Bettman, of the University of Oregon, used tannic acid with silver nitrate while Fantus and Dyniewicz, of the University of Illinois, suggested a compound tannic acid solution containing salicylic acid and the chlorides of potassium, sodium and calcium. Following its application, the resulting coagulum is swabbed with 10 per cent silver nitrate.

The early application of skin grafts it urged by all of the more recent writers and certainly shortens the period of disability.

One cannot consider the subject of burns without mentioning the burns that are caused by handling caustic materials. Portland cement, which consists of about 60 per cent lime, is responsible for many disabling burns of hands and feet, as well as for chronic irritation of eyes and eyelids. Prophylaxis instead of treatment is the ideal procedure. However, once the cement burn has occurred, the crust should be removed as soon as possible and the wound treated as an extensive granulating wound. The reason for the prompt removal of the crust or coagulum is that the caustic alkali is held in the crust and can be redissolved by the serum and, in turn, through precipitation, produce a second or deeper burn on the same location. Therefore it is necessary to remove the crust and irrigate

the surface with a very slightly acid solution followed by a dressing that will prevent further burn. A bland or stimulating ointment containing quantities of vitamins A and D, obtained from cod liver oil, has been found to stimulate rapid granulation and hasten the preparation of the burned area for skin grafting. The prevention of infection about the edges of the burned area is exceedingly important because it is from these points that the whole wound becomes infected with the resulting so-called "pus poultice" development. Gas gangrene or tetanus may result from burns so must always be kept in mind, and prompt treatment instituted whenever they appear.

Strains and sprains are among the more frequent minor injuries. While industry is the usual source of this type of injury, a large number occur in the home or in sports. A sprain is more serious than a strain, and the damage more extensive. With sprains there is actual trauma, tearing of the ligaments, while in strain there is no actual tearing. The treatment, therefore, will vary with the case. Strains of ankles and knees, as well as shoulders, can be adequately cared for if they are promptly strapped with adhesive plaster, and the patients sent on their way with instructions to keep the joints moving. Sprains require the same procedure with the addition of physiotherapy. The injection of novocain solution into and around a sprained joint, which has been advocated by several writers in recent journals, may become a popular procedure and, when combined with adequate strapping, is said to allow the patient to resume walking or to return to work almost immediately.

Fractures. Because of the frequency of unrecognized fractures in cases of severe sprains, a roentgenogram should be insisted upon in all questionable cases. When discovered, fractures about joints require splinting for a long enough period to give firm union, and to enable the joint to withstand physiotherapeutic manipulation. Splints made of plaster of paris bandages that may be kept in airtight containers constitute the best type of splint for most injuries of this kind. There is now available material for making moulded splints of cellulose and pyroxylin which have the advantage of being very light in weight and offer practically no resistance to roentgen rays. Sponge rubber padding about sprained joints is being used with good results, especially about the knees.

I would like to mention the use of the newer anesthetics and to call attention to the fractional dosage or administration of evipal and pentothal sodium. Both of these intravenous anesthetics give quick relaxation and analgesia. Sodium pentothal gives a somewhat smoother, more prolonged and less toxic anesthesia. Preliminary medication is essential to the best results with any intravenous anesthetic. Morphine and atropine, most commonly used, seem to cause more nausea than pantopon, or atropine alone. The use of local anesthesia for the reduction of fractures has become more common and is satisfactory in most cases, particularly in fractures of the forearm in children. I have used it occasionally in fractures occurring in the lower third of the leg.

Conclusion

No attempt has been made to cover the treatment of all minor injuries. A brief resume has been given of the generally accepted treatment for several types of injuries. Mention has been made of a few procedures that I have personally found most satisfactory. Particular emphasis has been placed upon the prophylaxis of tetanus and gas gangrene, and the treatment of cement burns. Local anesthesia in reduction of fractures and two of the new intravenous anesthetics have been mentioned. Attention has been called to the possibility of late bony malignancy following minor injury.

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OUR NEW GOVERNOR

As this January Journal goes to press, Florida's new governor, Honorable Spessard L. Holland, takes over the official duties of his high office. Governor Holland, who served as state senator for eight years, was graduated from the University of Florida, and has been an active member of that University's alumni. He possesses unusual talents which should make him an outstanding chief executive of the state.

The medical profession is particularly interested in the health of Florida citizens. It is, therefore, gratifying to know that Governor Holland has stated officially that he will not inject state politics into the public health administration in Florida and that he will not interfere with its functions either by partisan, personal or petty politics. Florida enjoys the patronage of a host of winter visitors. The subtropical climate, sunshine and beaches add to the healthfulness of the state. The movement of this vast population into the state and out of it adds to the responsibilities of those protecting the health of the people. Our new governor is cognizant of this fact and has, at the very beginning of his administration, given every assurance of cooperation. His position and attitude toward the public health program have been made plain and he is justified in expecting proper cooperation from the medical profession and the health officials. In an address before the twelfth annual convention of the Florida Public Health Association at Tampa, December 6, 1940, Governor Holland made some pertinent statements:

> I do feel it is proper to call attention to the fact that there has been partisan politics engaged in by the State Board of Health and by some of its key employees. In my opinion this conduct is not worthy of any health department; however, it is water under the bridge, and I am paying no attention to it. I shall never infringe into this important field of administration of state law. In return I hope there will never be any interference or activity in state politics by the members of the State Board of Health or its key employees. I want them absolutely to keep their hands out of state politics. . . . .
>
> Another thing I would like to say. It must be presupposed that any engagement in party politics within the State Board of Health will not be forgiven by the authorities higher up and will be regarded as direct infringement on rules that must be adhered to. I sincerely hope that such past activities have permanently disappeared. So far as I am concerned, I would regard anything of that kind not as a play of politics but as a summons to clean up the organization so business could be transacted efficiently. I feel very, very keenly in the field of public health because it seems to me that with all the miseries to which human beings have fallen heir, we have our full share in this state. There is enough work for us all to do in alleviating human suffering without engaging in party politics. We must bring just as much efficiency as possible into our efforts to relieve and improve conditions . . . . .
>
> The question has come up whether it would be better for the State Health Officer to be named by the Governor or by the Board. If you expect him to be a police officer, he will have to be named by the Governor. If you expect him to be just an executive comparable to that of the president of the University of Florida, he can be named by a Board which would be giving daily consideration to the problems of health, presupposing the right kind of board. There should be no doubt about the wisdom of that Board in choosing a person and other persons under him best to observe the carrying out of the objectives of the health program. I think that is all that I need to say to show you how I feel.

FIRST ANNUAL MEDICAL MEETING OF THE NATIONAL FOUNDATION FOR INFANTILE PARALYSIS

The National Foundation for Infantile Paralysis held its First Annual Medical Meeting at the Waldorf-Astoria Hotel, New York City, on November 7 and 8, 1940. Attending the meeting were the members of the medical advisory committees, the grantees of the Foundation, and the Board of Trustees. Reports of the activities of committees and grantees for the preceding year were presented, and recommendations were made for grants for 1940-1941.

The Foundation is concerned with promo-

tion and furtherance of research on all phases of infantile paralysis. Studies are being carried on through grants from the Foundation on problems of epidemiology, virus research, relationship of nutrition to poliomyelitis, and the prevention and treatment of the disease. In addition, a program of professional and lay education has been promoted.

The Committee on Virus Research reported that studies were being conducted to determine the nature of the poliomyelitis virus. Studies on the development of active and passive immunities were reported. All attempts at producing immunity have thus far met with failure. Studies in chemotherapy were also reported. While a chemical has not been found that will do for poliomyelitis what sulfanilamide has done for certain bacterial infections, leads have been discovered which are now the subject of further investigation.

Reports were received from grantees who are studying both the effects of the disease and the methods of prevention of damage. Physiologic changes in muscular atrophy are being studied at the Jewish Hospital in Cincinnati, at the Russell Sage Institute for Pathology in New York, and at the State University of Iowa. None of these investigations have advanced far enough to warrant any definite conclusions.

Other investigations reported were those on gross and microscopic pathologic studies of paralyzed muscles; the measure of end results of various forms of surgical and conservative treatment; and studies of epidemics.

To inform both professional workers and the public of certain aspects of this disease an educational program has been conducted. An exhibit at the New York World's Fair was viewed by over 5,000,000 persons. Scholarships have been made available through the National Research Council to physicians wishing to specialize in orthopedic surgery or virology. Other scholarships have been made available to nurses wishing to specialize in the orthopedic aspects of public health nursing. Graduate instruction in physiotherapy also has been provided.

At this meeting additional grants were recommended for continuation of existing studies or new investigations in the amount of $137,350.00.

IRREGULAR PRACTITIONERS TO BE INVESTIGATED

In many parts of our land there are persons who fraudulently claim to have the knowledge and ability to cure the ailments of mankind. They are not the legally licensed practitioners of the healing art, but persons who are practicing in violation of state laws and collecting money from our citizens under false pretenses. The uninformed citizen when seriously ill is often favorably impressed by an impostor who gives assurance of quick and permanent cure.

Florida, like other states, faces the problem of protecting its citizens against irregulars. Laws have been passed to restrict the practice of the healing art to those who have passed certain examinations given by state boards of examiners, as proof of their education and other qualifications. Such laws, however, do not of themselves solve the problem. When an individual arrives in your city, makes contacts with the sick, and proclaims certain cure, what is to be done? The first answer that naturally presents itself is that such a person should be reported to the proper authorities. This may seem a simple solution. However, who is going to make the report? Who will secure the evidence that there has been a violation of law? Since the problem of apprehending and convicting irregulars is so complicated, the health of our people is often jeopardized.

To assist in the correction of such conditions in Florida, the State Board of Health at its December meeting took an action which is a forward step in the protection of public health. Effective January 1, the four inspectors serving with the Bureau of Drugs and Narcotics of the State Board of Health were empowered to investigate, secure evidence, and bring to the attention of law enforcement officials, irregularities in the practice of the healing art. When quacks, irregulars or those making unlawful claims are reported to the State Board of Health, an inspector will immediately make a proper investigation.

In order that the Bureau of Drug and Narcotics may have firsthand information concerning those who are legally licensed to practice the healing art, the annual registration of doctors will be handled by this Bureau. This plan provides a definite tieup of related work as the inspectors, through their Bureau, will

have information as to who is properly licensed and who is not.

The State Board of Health in Florida is a powerful organization, working for all of the people all of the time, to ensure the protection of public health. This new move on the part of the Board, is in line with many other valuable contributions it has made to our citizens.

BASIC SCIENCE LAW FOUND CONSTITUTIONAL IN ARKANSAS

The following account of an action brought by the Arkansas Medical Society to restrain the State Board of Chiropractic Examiners from issuing licenses to applicants who had not passed the Basic Science examination, appeared in the *Journal of the American Medical Association,* issue of December 14, 1940.

The case constitutes a trial of the Basic Science law, which was found to be constitutional by the State Supreme Court.

BASIC SCIENCE LAW (Arkansas): CONSTITUTIONALITY AND APPLICABILITY TO CHIROPRACTORS.—The legislature of Arkansas in 1915 enacted a statute creating a state board of chiropractic examiners and required it to examine prospective chiropractors in the subjects of anatomy, physiology, symptomatology, chemistry, hygiene, chiropractic principles and diagnosis. In 1929 a basic science law was enacted in Arkansas which requires every applicant desiring a license to practice the healing art or any branch thereof to pass an examination in the basic sciences—anatomy, physiology, chemistry, bacteriology and pathology—and present to the licensing agency a certificate to that effect, issued by the state board of examiners in the basic sciences, before he may be permitted to take a further examination for the particular branch of the healing art which he desires to pursue. This law excepted from its application dentists, nurses, midwives, optometrists, chiropodists, barbers, cosmeticians and Christian scientists. By reason of these statutory provisions, the plaintiff, the Arkansas Medical Society, petitioned the Pulaski chancery court for an injunction (1) to restrain the defendant state board of chiropractic examiners from issuing licenses to practice chiropractic to any applicants who failed to present certificates showing satisfactory completion of the required examination in the basic sciences and (2) to enjoin two individual chiropractors from practicing chiropractic under invalid licenses issued to them by the state board of chiropractic examiners without their having complied with the basic science law. From an order of the court denying the petition, the plaintiff appealed to the Supreme Court of Arkansas.

The defendants contended that the basic science law does not apply to the practice of or the licensing to practice chiropractic and that so far as it attempts to regulate such licensing or practice it constitutes an unreasonable and unconstitutional interference with the right to practice chiropractic. In support of this contention the defendants argued that bacteriology and pathology, two of the subjects in which applicants for licensure to practice the healing art are required by the basic science law to take examinations, were neither essential to nor connected with the practice of chiropractic. With this contention, however, the Supreme Court of Arkansas could not agree. The legislature, said the court, believed it proper that all persons seeking a license to practice the healing art should have a knowledge of, among other subjects, bacteriology and pathology, and we cannot say their inclusion as to chiropractic was unreasonable, arbitrary and without any relation to such practice. Bacteriology is defined by Webster as "The science which deals with the study of bacteria. It is a branch of botany, but some of its most important practical relations are with hygiene, medicine and agriculture." Certainly bacteriology has some relation to the practice of chiropractic since "some of its most important practical relations are with hygiene," a subject in which a prospective chiropractor is required by the chiropractic practice act to take an examination. Pathology is defined as "The science treating of diseases, their essential nature, causes and development, and the structural and functional changes produced by them." In reply to the defendants' argument that the subject of pathology was not related to the practice of chiropractic because chiropractors do not diagnose or treat disease but merely locate "the nerve pressure of the spinal column" and make proper adjustments to relieve that pressure, the court said: "If he does not treat diseases, what does he treat? Does he manipulate the vertebrae of a well person just for the pleasure of such well person? There would be no excuse for any regulatory chiropractic laws, if they were not engaged in treating disease." In the judgment of the court, the basic science law does apply to the practice of and the licensing to practice chiropractic, which is a branch of the practice of the healing art, and applicants for license must successfully pass examinations in the basic sciences before the basic science board of examiners as a prerequisite to eligibility for examination before the chiropractic board.

Furthermore, continued the court, the basic science law does not abridge the rights and privileges of chiropractors but simply places additional requirements on the qualifications for practice. It merely regulates the practice of chiropractic but does not ban it. The fact that the basic science law excepts from its operation dentists and certain others does not constitute, as the defendants claimed, an arbitrary and unreasonable classification.

The Supreme Court of Arkansas concluded that the basic science law is constitutional, and so it reversed the judgment and remanded the case with directions that the injunction be granted. An appeal to the United States Supreme Court was dismissed for want of a substantial federal question.—*Stroud et al. v Crow et al. (Ark.), 136 S. W. (2d) 1025; 61 Sup. Ct. 17.*

MEDICAL LICENSES GRANTED

Dr. W. M. Rowlett, Secretary of the State Board of Medical Examiners, reports to the State Medical Association that out of fifty-seven applicants who took the State Board examination in Tampa on November 18 and 19, fifty-three were successful and licenses were issued to them. The following are the names and addresses of the successful applicants:

Abrams, Marc Victor; Morristown, N. J., (Long Island College 1913).
Bonright, Elizabeth M.; Englewood, N. J., (Columbia 1940).
Bourkard, Ernest Richard; Miami, (Tenn. 1939).
Brooks, Warren Ainsworth; Orlando, (Emory 1938).
Burton, Joe M.; Atlanta, Ga., (Emory 1940).
Byrne, Maryland Burns; New York, N. Y., (N. Y. Women's 1917).
Clark, James Andrew, Jr.; West Palm Beach, (Tenn. 1938).
Colclough, John Ashby; New Orleans, La., (Tulane 1923).
Cooper, Maurice Price; Toledo, O., (Cincinnati 1929).
Crawford, John Brantley; Miami, (Emory 1939).
Drane-Hopkins, Miriam M.; Memphis, Tenn., (Tenn. 1926).
Estes, Woodrow Brown; Miami, (Tenn. 1939).
Fitzpatrick, Emmett Thomas; Miami Beach, (Marquette 1938).
Flynn, Joseph Clement; Cincinnati, O., (Cincinnati 1939).
Gates, Emily Harvey; Lakeland, (Minn. 1940).
Gibboney, Harry S.; Jacksonville, (Emory 1940).
Helsabeck, Belmont Augustus; Winston-Salem, N. C., (Virginia 1931).
Higginbotham, S. Roy, Jr.; Atlanta, Ga., (Emory 1940).
Hodsdon, Edward E.; Miami, (Tufts 1940).
Hunter, William LeGrand; Emory University, Ga., (Emory 1940).
Inclan, Albert Francis, Jr.; Jacksonville, (Tulane 1939).
Jordan, Joseph Mitchell; Gainesville, (Penn. 1938).
Katzin, Herbert Maurice; New York, N. Y., (Harvard 1937).
Levine, Morris Joseph; Atlantic City, N. J., (Georgia 1937).
Loomis, Lyon Kneeland; Tampa, (Rochester 1939).
McCleery, Robert Stowers; Miami, (Ohio 1938).
McConnell, W. H.; Tampa, (Tulane 1940).
McTurnan, Robert Ward; Tampa, (Indiana 1939).
Mabry, Edward Hays; Tampa, (Tenn. 1937).
Malone, Bert Hagen; Jacksonville, (Louisiana 1936).
Mast, Karl Frederick; Miami, (Indiana 1938).
Meriwether, William G.; Tampa, (S. C. 1940).
Miller, Cecil Ewing; Sarasota, (Okla. 1938).
Morrow, Arch Sherrod; Jacksonville, (Duke 1936).
Nickel, Walter Russell; Rochester, Minn., (Minn. 1938).
Norman, Edith Emilie; Chattahoochee, (Rush 1927).
Oren, Benjamin G.; Jacksonville, (Albany 1940).
Powers, Earl Jennings; Blanchester, O., (Cincinnati 1932).
Randall, William S.; Pensacola, (Louisiana 1937).
Ravitch, Samuel Joseph; Quincy, (Minn. 1927).
Rose, Maurice Joseph; Chicago, Ill., (Ill. 1923).
Rosenberg, Harold William; New York, N. Y., (Maryland 1935).
Rotter, Saul David; Brooklyn, N. Y., (Long Island 1936).
Ruediger, Ernest Henry; Chattahoochee, (Rush 1903).
Schultz, Frederic W.; Chicago, Ill., (Maryland 1902).
Shaffer, Joseph Haskell; Detroit, Mich., (Rush 1932).
Shann, Herman; Brooklyn, N. Y., (Bellevue 1907).
Shipley, John Thomas; Palm Beach, (Jefferson 1929).
Victor, Jules, Jr.; Miami, (Georgia 1938).
Virgin, Herbert Whiting, Jr.; Madison, Wis., (Northwestern 1932).
Vogt, Elkin; Decatur, Ga., (Georgia 1939).
Williams, Ashbel Cotten; Jacksonville, (Yale 1935).
Williams, William Lewis; Pensacola, (Virginia 1929).

MARRIAGES AND DEATHS

MARRIAGES

Dr. Leo M. Wachtel and Miss Helen Ross Dixon of Jacksonville were married on January 7.

DEATHS

Dr. Van William Burns of Stuart died on December 23 at West Palm Beach.

STATE NEWS ITEMS

Dr. John Henry Thomas of Gainesville completed written examination and flight test for a private pilot's certificate at the Gainesville Municipal Airport on December 5.

* * *

Dr. O. O. Feaster of St. Petersburg was elected first vice president of the Radiological Society of North America at its meeting held in Cleveland, December 2 to 6. The membership of this Society totals 1,360 radiologists of the United States, Canada, Mexico, Central America and Cuba. The attendance at the Cleveland meeting was approximately 800. Other Florida doctors attending the Cleveland meeting were: J. Maxey Dell, Jr., Gainesville; A. G. Levin and Gerard Raap, Miami; Frazier J. Payton, Miami Beach; J. N. Moore, Ocala; Annette M. Feaster, St. Petersburg; Charles M. Gray, Tampa.

* * *

Dr. W. L. Shackleford of West Palm Beach has resigned as superintendent of the Good Samaritan Hospital, his resignation to become effective February 1, 1941. He has held the position of superintendent for the past thirteen years. Dr. Shackleford plans to enter private practice after relinquishing his duties as superintendent of the hospital.

* * *

Dr. Shaler Richardson of Jacksonville was elected president of the State Board of Health at the Board meeting held in December. Dr. Richardson succeeds in the presidency the late Dr. N. A. Baltzell.

Dr. Kenneth R. Bell of Sanford recently addressed the Key Club of the Seminole High School of that city. He spoke on the qualifications necessary to become a good physician.

* * *

Written examinations for Florida applicants of the American Board of Obstetrics and Gynecology were held in Riverside Hospital, Jacksonville, on January 4, under the supervision of Dr. Ferdinand Richards.

* * *

Dr. Courtland D. Whitaker of Marianna has been selected to succeed Dr. Nicholas A. Baltzell as physician to the Florida Industrial School for Boys in that city.

* * *

Dr. A. J. Logie of Jacksonville has just returned from a vacation in California. He was the guest of Dr. Bennett and Dr. Kupka at the Los Angeles County General Hospital, and of Dr. Pottenger at the Pottenger Clinic and Sanatorium in Monrovia; and also of Dr. Winter, Chief Physician at the Olive View Sanatorium.

MONTGOMERY MERRITT HANNUM

Dr. M. M. Hannum, oldest Eustis physician from point of service, died suddenly in Orlando on the evening of December 9. Settling in Eustis in 1912, he was one of the founders of the Lake County Medical Society and, later, of the Lake County Medical Center.

Dr. Hannum was born in Maryville, Tennessee in 1883 and received his degree from the University of Tennessee Medical College in 1910.

He was a member of the Rotary Club and the Elks Lodge, a member of the Lake County Medical Society, the Florida Medical Association, and a Fellow of the American Medical Association. At the time of his death, he was serving as chairman of the Medical Preparedness Committee of the Lake County Society.

Dr. Hannum is survived by his widow, Cliff; one son, William, a student at the University of Tennessee Medical School; one daughter, Mrs. Otto Wettstein, Jr., of Ocala; one sister, Mrs. Simpson Penney, Sr., Orlando; and one brother, Fisher Hannum of Eustis.

NICHOLAS ALBERT BALTZELL

Dr. Nicholas A. Baltzell of Marianna, president of the Florida State Board of Health, died in Jacksonville at 8 o'clock on the morning of December 8, at the age of 63. He had come to that city to attend a meeting of the State Board which was to have convened at 10 a. m. He had been a member of the Board since 1933, having been appointed by Governor Dave Sholtz and re-appointed by Governor Fred Cone.

Dr. Baltzell was well known throughout the state as a private physician, but had given much of his time to the State Board of Health and to other organizations. He established and owned a hospital in Marianna, where he was born March 18, 1877, the son of the late Albert and Rachel Robenson Baltzell. He was married in 1905 at Hampton, Virginia.

He was chief of the medical staff of the Industrial School for Boys at Marianna, past president and a member of the State Board of Medical Examiners, and a past president of the Florida Railway Surgeons' Association. He was a member of Morocco Temple, the Florida Public Health Association and the Jackson County Medical Society, a life member of the Florida Medical Association, and a Fellow of the American Medical Association.

Dr. Baltzell was graduated in 1900 from Tulane Medical School and was a member of the Sigma Nu social fraternity. He interned at Touro.

Survivors include his widow, Mrs. Ethel Schmelz Baltzell; two daughters, Mrs. Georgia Merriam, wife of Capt. Lauren W. Merriam, United States Army, West Point, N. Y., and Mrs. Margaret Hester, wife of Capt. Henry Hester, United States Army, Honolulu, Hawaii; and a sister, Mrs. Annie Baltzell MacKinnon of Marianna.

Dr. Baltzell had an active interest in and a keen understanding of present-day problems in the field of Medicine. His counsel and support will be greatly missed at medical gatherings in the future.

EDMOND JOHN MELVILLE

Dr. Edmond J. Melville of St. Petersburg died suddenly on November 28, at the age of 72. A world traveler, he was widely known for his articles and books on travel.

The Pinellas County Medical Society, at a meeting held December 6, passed the following resolutions on the death of Dr. Melville:

WHEREAS, the Lord has seen fit to remove from our membership one beloved member; be it

RESOLVED, That the Pinellas County Medical Society express its sincere sympathy by action at its regular meeting held at Clearwater, Florida, this sixth day of December, 1940. Be it further

RESOLVED, That such action be sent in writing to the widow and to the Journal of the Florida Medical Association for publication and be spread upon the minutes of this Society.

Dr. Edmond J. Melville died at the age of 72 at his home in St. Petersburg, Florida from an apparent heart attack. He came to St. Petersburg twenty-two years ago from St. Albans, Vermont. He received his medical degree from Queens College, Kingston, Ontario. During the World War he served as a Major in the United States Medical Corps. He has been a member of the Pinellas County Medical Society for twenty years and he has also been active in the Knights of Columbus and Elks Lodges.

Dr. Melville was a physician of fine ability, respected and admired by his colleagues. He is survived by his widow, Mrs. May Melville, and two sisters, Mrs. Mary Ann Hogan, Kingston, Ontario, and Mrs. Nora Brown, New York City.

COMPONENT COUNTY SOCIETIES

DADE

At the Annual Election of Officers held by the Dade County Medical Society in December, the following were selected to head the Society for 1941:

Dr. C. Larimore Perry—*president.*
Dr. T. O. Otto—*vice president.*
Dr. Herbert Eichert—*secretary.*
Dr. W. L. Fitzgerald—*treasurer.*

* * *

DUVAL

On the evening of December 3, the Duval County Medical Society elected its officers for 1941. The result of the election was as follows:

Dr. Ernest B. Milam—*president-elect.*
Dr. James M. Bryant—*vice president.*
Dr. F. Gordon King—*secretary.*
Dr. Alan Brown—*treasurer.*

Dr. S. R. Norris was installed as president of the Society, succeeding Dr. Charles B. Mabry, retiring president.

ESCAMBIA

Dr. R. W. Kissane, director of the Department of Cardiology of the Ohio State University, was guest speaker at a joint meeting of the Escambia County Medical Society and the Staff of the Pensacola Hospital, on the evening of December 3. His subject was "The Traumatic Heart."

* * *

HILLSBOROUGH

At the annual meeting of the Hillsborough County Medical Society, the following officers, censors and delegates were elected to serve for 1941:

Dr. Robert G. Nelson—*president.*
Dr. B. W. Lowry—*vice president.*
Dr. J. S. Grable—*secretary-treasurer.*

Censors: Drs. L. B. Mitchell, B. W. Lowry, W. C. Blake.

Delegates: Drs. J. W. Alsobrook, T. C. Maguire, J. R. Boling, J. C. Pate, and W. M. Rowlett.

* * *

LAKE

Dr. Marion B. O'Kelley of Leesburg was elected president of the Lake County Medical Society at the annual meeting held in December. Dr. Louis R. Bowen of Eustis was elected vice president and Dr. Clyde Bowie of Leesburg was named secretary-treasurer. Drs. M. B. O'Kelley and W. L. Ashton were named delegates to the next State Convention.

Dr. M. M. Hannum of Eustis spoke on the participation of physicians in the selective service program. A guest at this meeting was Dr. Terry Bird, former director of the Lake County Health Department, who is now medical director of the State Crippled Children's Commission. Dr. Ashton presided at the meeting

* * *

LEE

The Lee County Medical Society is this year headed by the following officers, elected at a meeting of the Society held on December 17:

Dr. M. F. Johnson—*president.*
Dr. A. S. Byle—*vice president.*
Dr. H. Quillian Jones—*secretary-treasurer.*
Dr. H. J. Stipe—*delegate.*
Dr. H. Quillian Jones—*alternate.*

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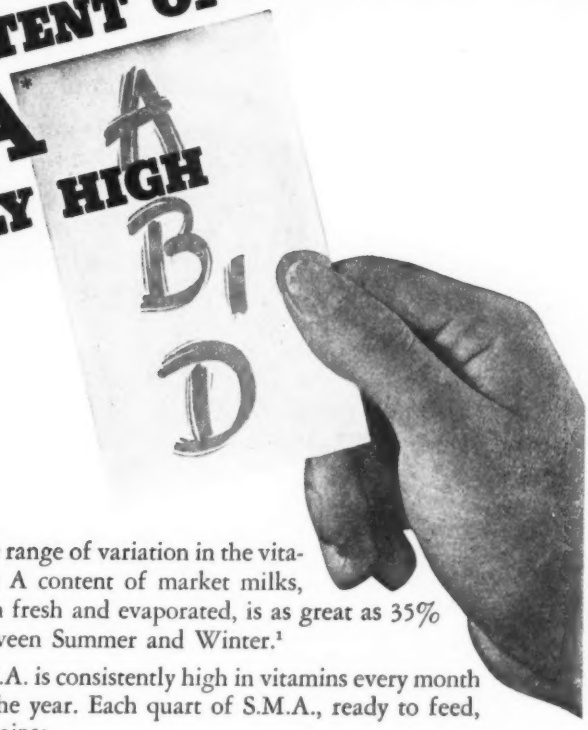

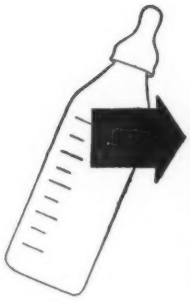

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1. Dornbush, A. C., Peterson, W. H., and Olson, F. R.: "The Carotene and Vitamin A Content of Market Milks." J.A.M.A., May 4, 1940, pp. 1748-1751.

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MARION

The annual Election of Officers, held by the Marion County Medical Society in December, resulted as follows:

Dr. E. G. Peek—*president.*
Dr. C. W. Mimms—*vice president.*
Dr. Harry F. Watt—*secretary-treasurer.*

* * *

ORANGE

The following officers were elected by the Orange County Medical Society for 1941, at the December meeting of the Society:

Dr. Frank D. Gray—*president.*
Dr. Spencer Folsom—*president-elect.*
Dr. J. F. Gardner—*vice president.*
Dr. Fred Mathers—*secretary.*
Dr. H. C. Ingram—*treasurer.*

* * *

PALM BEACH

Dr. W. O. Arnold was elected president of the Palm Beach County Medical Society at a meeting held December 23. Other officers elected were: Dr. J. R. Sory, vice-president; Dr. Victor Clarholm, secretary, and Dr. F. K. Herpel, treasurer.

* * *

PASCO-HERNANDO-CITRUS

As one of the last official actions of Dr. W. H. Walters, president of the Pasco-Hernando-Citrus County Medical Society, it was fitting that he should entertain that society at his home in Lacoochee Thursday evening, December 12. A quail dinner was served by Dr. Walters and those in attendance enjoyed an unusually pleasant evening.

The newly elected president who will take over the responsibilities of that office for the year 1941, is Dr. W. B. Moon of Crystal River. The other officers are Dr. W. W. Jones of Dade City, first vice-president; Dr. S. C. Harvard of Brooksville, second vice-president; and Dr. G. R. Creekmore of Brooksville, re-elected secretary-treasurer. Dr. Creekmore has served for many years as secretary-treasurer of this county medical society and has been recognized as a very active and capable worker. Meetings of this society are held regularly and Dr. Creekmore, as secretary, has been very prompt in reporting the activities to the State Association.

Those present at the last meeting of the year were Drs. Bradshaw, Creekmore, Harvard, Jones, Manley, Moon, Simmons, Sistrunk and Walters. A unanimous vote of thanks was given the retiring president, Dr. Walters, for the entertainment in his home.

* * *

PINELLAS

The Pinellas County Medical Society held its meeting of December 6 at the Palm Cafeteria, Clearwater. Four papers constituted the scientific program:

"A Case of Recurrent Chills"—
P. H. Guinand.
"An Interesting Abdominal Case"—
J. Marvin Kent.
"Infant Feeding"—Grace Whitford.
"The Unusual Appendix"—M. E. Black; discussion opened by John Hagood and L. B. Dickerson.

The second meeting of the month was held on the evening of December 20 at the Shrine Club, St. Petersburg. The following scientific program was presented:

"Case Reporting" (5 min. each) opened by F. E. Whaley.
"Five Minute Talk"—R. H. Knowlton.
"The Yesterday of Medicine"—M. A. Nickle; discussion opened by Grace Whitford and Alvin J. Wood.
"Sight or Insight?"—Ansley C. Moore.

* * *

POLK

Dr. Bruce R. Tinkler of Lake Wales was elected president of the Polk County Medical Society at a meeting held at Winter Haven December 4. Other officers are Dr. L. L. Lancaster, Bartow, vice president; Dr. Edgar Watson, Lakeland, secretary-treasurer.

To the Board of Censors were named Drs. Herman Watson, T. H. Roberts and R. L. Wilhoyte. Delegates selected were: Drs. James Boulware, Herman Watson and R. L. Cline; alternates—Drs. R. H. Mooty, J. L. Hargrove and J. F. Wilson.

* * *

SEMINOLE

Officers elected by the Seminole County Medical Society to serve for the ensuing year are:

Dr. K. R. Bell—*president.*
Dr. G. S. Selman—*vice president.*
Dr. T. F. McDaniel—*secretary-treasurer.*

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VOLUSIA

The Volusia County Medical Society held its Election of Officers on December 10, with the following result:

Dr. J. R. Chandler—*president.*

Dr. W. C. Pay—*vice president.*

Dr. R. L. Miller—*secretary-treasurer.*

The scientific program consisted of a symposium on "Transfusion and Plasma Therapy", presented by Drs. Evans B. Wood, J. Ralston Wells, and Hugh West.

* * *

WALTON-OKALOOSA

To the Walton-Okaloosa County Medical Society goes the honor of being the first 100% paid society for 1941. Heading this society are: Dr. A. G. Williams, Lakewood, *president;* and Dr. R. B. Spires, DeFuniak Springs, *secretary.*

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